



WASTELANDS ATLAS OF INDIA

nrsc

(Change Analysis Based on Temporal Satellite
Data of 2008-09 and 2015-16)



**Department of Land Resources
Ministry of Rural Development
Government of India
New Delhi-110011**



**National Remote Sensing Centre
Indian Space Research Organisation
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2019



सत्यमेव जयते

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ग्रामीण विकास तथा पंचायती राज मंत्री
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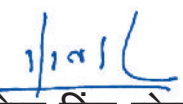
संदेश

मुझे यह जानकर खुशी है कि ग्रामीण विकास मंत्रालय, भारत सरकार के भूमि संसाधन विभाग द्वारा बंजर भूमि संबंधी अद्यतन सूचना पर आधारित “भारत का बंजर भूमि एटलस - 2019” के पांचवें संस्करण का प्रकाशन किया जा रहा है।

देश के भूमि संसाधन के अधिकतम उपयोग के लिए बंजर भूमि का वैज्ञानिक आकलन किया जाना अपेक्षित होता है। बंजर भूमि के संबंध में विश्वसनीय डाटा की उपलब्धता के महत्व को ध्यान में रखते हुए, राष्ट्रीय सुदूर संवेदन केन्द्र (एनआरएससी) के सहयोग से भूमि संसाधन विभाग, ग्रामीण विकास मंत्रालय और अंतरिक्ष विभाग, सुदूर संवेदन सेटेलाइट डाटा का इस्तेमाल कर के देश की बंजर भूमि का आकलन करता रहा है और भारत का बंजर भूमि एटलस के नाम से इसका प्रकाशन वर्ष 2000, 2005, 2010 एवं 2011 में किया गया है।

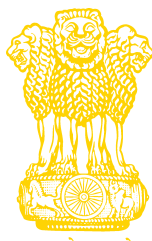
इस संस्करण में बंजर भूमि की अनुमानित स्थानिक सीमा के आकलन के अलावा वाटरशेड विकास कार्यक्रम, बंजर भूमि जीर्णोद्धार कार्यक्रम, वनीकरण, नवीकरणीय उर्जा और उद्योगों के लिए स्थलों की पहचान, और कृषि क्षेत्र में फसलन तथा वृक्षारोपण आदि जैसे विविध क्षेत्रों के लिए उपयोग के लिए संदर्भ सामग्री को समाहित किया जाएगा। मुझे विश्वास है कि इस संस्करण में प्रकाशित की जा रही जानकारी और सूचनाएं देश में भूमि संसाधन के सतत प्रबंधन में बहुत उपयोगी सिद्ध होंगी।

मैं राष्ट्रीय महत्व के इस कार्य को पूरा करने के लिए भूमि संसाधन विभाग और एनआरएससी / इसरो के अधिकारियों को बधाई देता हूँ तथा “भारत का बंजर भूमि एटलस - 2019” के संस्करण के सफल प्रकाशन की कामना करता हूँ।


(नरेन्द्र सिंह तोमर)

डॉ. जितेन्द्र सिंह

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**MESSAGE**

I am immensely pleased to note that National Remote Sensing Centre (NRSC), ISRO, Department of Space and Department of Land Resources (DoLR), Ministry of Rural Development is bringing out "Wastelands Atlas of India-2019", based on the analysis of Indian remote sensing satellite data.

Wastelands assessment is being carried out by NRSC in association with DoLR, MoRD at regular interval since 1986. It has given spatial spread and changes happening in the spatial extent of wastelands in the country. Output from these wastelands mapping exercises has provided vital information for reclamation and afforestation in order to bring such areas under productive use.

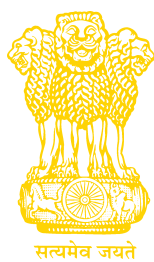
I am sure that the wastelands atlas would provide useful inputs to identify specific areas for further reducing their extent. This will also help in identifying areas for productive use / greening, new infrastructure projects and potential solar farms for renewable energy and so on.

I convey my best wishes and congratulate the teams at DoLR and ISRO for this important endeavour which is of great value for national development.

New Delhi

dt. 26th September, 2019

(Dr. Jitendra Singh)
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सत्यमेव जयते

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FOREWORD

Land is a non-renewable finite resource which supports all primary production systems as well as basic social requirements such as infrastructure, transport and industries etc. India constitutes 17.71 percent of the World's population and 2.4 % of the geographical area. The ever-increasing population has resulted in gradual decrease in per capita availability of land, besides affecting it adversely making it underproductive / unproductive day by day. It is thus imperative on the part of policy makers to keep such precious and finite resources in healthy conditions to ensure basic ecological services unhindered, socio-economic and political security unquestioned and resilience to climate change unchallenged. It is in this background, a robust geospatial information on wastelands assumes utmost significance for devising strategies to bring back such wastelands into the productive folds once again.

Realising the importance of reliable database on wastelands, the Department of Land Resources in collaboration with National Remote Sensing Centre, Department of Space had published Wastelands Atlases of India in the years 2000, 2005, 2010 & 2011. According to these Wasteland Atlases of India, the extent of wastelands in the country was estimated to be 63.85 Mha in Atlas - 2000, 55.64 Mha in Atlas - 2005, 47.23 Mha in Atlas - 2010 and 46.70 Mha in Atlas - 2011.

I am delighted to learn that this is the fifth wastelands mapping exercise carried out by the NRSC/ISRO using Indian Remote Sensing Satellite data. This Atlas provides district and state-wise distribution of different categories of wasteland areas, including mapping of about 12.0849 Mha unmapped areas of Jammu & Kashmir. The changes in wastelands between 2008-09 and 2015-16 have also been well presented. This effort has resulted in estimating the spatial extent of wastelands for entire country and it is found to be 55.76 million hectares (16.96% of geographical area of the country i.e. 328.72 Mha) in the year 2015-16, as compared to 56.60 Mha (17.22%) in the year 2008-09.

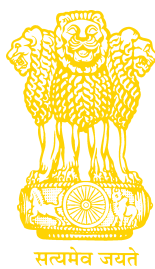
I congratulate and compliment the Project Team of the NRSC/ISRO and the associated partners for their relentless efforts in bringing out this Atlas. I am confident that this publication will provide very important information on land resources and will facilitate formulation of suitable development programs in the country by various users at national, international, state government departments and non-governmental organization levels.

(Ruolkhumlien Buhril)

New Delhi

Date : 13th September, 2019

डॉ. कै. शिवन
Dr. K. Sivan



अध्यक्ष, अन्तरिक्ष आयोग
व
सचिव, अन्तरिक्ष विभाग
Chairman, Space Commission
&
Secretary, Department of Space

PREFACE

The finite nature of land resources poses major challenge for food, water and environmental security in a farm - dependent economy like India. Development of Wastelands is one of the most viable options for improving land productivity. Considering the importance of natural resources inventory, DOS/ISRO has been regularly generating the geospatial information of wastelands at national scale for informed decision making.



In support of natural resources management and governance, ISRO has reasonably good constellation of earth observation satellites, providing periodical, synoptic and systematic information pertaining to land, water, ocean and others. Department of Land Resources (DOLR), Ministry of Rural Development has taken up the initiative to map wastelands of India and are the primary user of this database for planning and reclamation of wastelands.

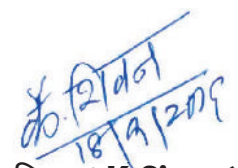
National Remote Sensing Centre/ISRO has undertaken the delineation of wastelands at 1:50,000 scale since the year 1986 and has brought out Wastelands Atlases during year 2000, 2005, 2010 and 2011 depicting the types and spatial distribution of wastelands in the country. As a follow-up, wastelands change analysis for entire country was carried out by adopting standardized mapping protocols in the year 2008-09 and 2015-16. With this there are multi-time database that could enable very good time series analysis on the subject.

The atlas showcases the role of remote sensing as an indispensable component, in showcasing the landuse improvement feature in the country. The changes in wastelands between 2008-09 and 2015-16 have been well presented in the current atlas on a GIS domain. This national level effort has resulted in estimating the spatial extent of wastelands with regard to different years' data that enable varieties of data analytics with regard to the extent of wastelands in the country.

I am confident that this publication will immensely help the country in taking dynamic decision with regard to improved landuse.

My accolades to the entire project team including the state remote sensing centres, for the efforts in successful completion of these national level pursuit.

Date: September 18, 2019


(कै. शिवन / K.Sivan)

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PREAMBLE

It gives me great satisfaction to introduce the "Wastelands Atlas of India - 2019" (Change Analysis based on Temporal Satellite Data of 2008-09 and 2015-16). Till date four cycles of mapping wastelands were completed for the country using remote sensing satellite data on 1: 50,000 scale by National Remote Sensing Centre (NRSC) at the behest of Department of Land Resources (DoLR), Ministry of Rural Development (MoRD), Government of India (GOI). The first Wastelands Atlas was brought out in the year 2000, wherein 63.85 million hectares area was reported under wastelands with 13 classes as decided by a Task Force constituted by the National Wastelands Development Board (NWDB) under the chairmanship of Prof. M. G. K. Menon, the then Member (Science), Planning Commission, GOI. This exercise was carried out using rabi season Landsat TM / IRS LISS-II, LISS-III data on 1:50,000 scale. In the year 2005, the second Atlas was brought out, reporting an area of 55.64 million hectares under wastelands for the year 2003, with 28 classes as decided by a Committee chaired by the Additional Secretary, DoLR, MoRD.



The third exercise was carried out for the year 2005-06 and the atlas was brought out in the year 2010. In this exercise, the mapping protocol was standardized keeping 'open series map' policy for wider public use and also for the first time three season satellite data was employed in mapping wastelands where temporal behavior of wasteland classes was also taken into consideration. An area of 47.23 million hectares was reported under 23 classes of wastelands. Subsequently, wastelands mapping under fourth cycle for 2008-09 was carried out by adopting identical map projection and datum parameters, data sources, classification system, mapping methodology and digital database standards, as were adopted for 2005-06 study.

The current exercise of fifth cycle of wastelands mapping for the year 2015-16, synthesizes the catalytic role of remote sensing data for objective comparison of wastelands between 2008-09 and 2015-16. The changes in wastelands are well articulated and presented in the form of change matrices for better understanding.

The total wastelands area in the country was estimated to 5,57,66.51 Sq.Kms constituting to 16.96% of Total Geographical Area (TGA) in 2015-16 compared to 5,66,070.36 Sq.Kms (17.22% of TGA) in 2008-09 period. Thus, a total of 8,404.86 Sq.Kms area brought to non-wastelands class from 2008-09 to 2015-16.

The results of the study have been presented in an articulate format, which I am sure, as in the past, will be useful to all the stakeholders involved in wastelands mapping, monitoring and reclamation activities.

September 11, 2019

शांतनु चौधुरी
(Santanu Chowdhury)

भारतीय अन्तरिक्ष अनुसंधान संगठन



Indian Space Research Organisation

ACKNOWLEDGEMENTS

Increasing population giving rise to pressure on demand for land based products / services which include agricultural as well as non agricultural purposes all over the world. In India, this demand for land has led to over-utilization of land resources regardless of their potential and limitations, resulting in the creation of vast stretches of wastelands. It has become imperative to identify lands suitable to create infrastructure, improve agriculture production, develop industrial zones etc.,. Thus, there is a persistent need of reclaiming those wastelands that have the potential for recuperation. The Department of Land Resources (DoLR) as the nodal agency in land resources management is striving to realize the same through various initiatives. Geospatial data generation of wastelands is one such enterprising step undertaken by National Remote Sensing Centre (NRSC) at the behest of DoLR, primarily to showcase their spatial distribution and changes across the country.

It is with great esteem that NRSC acknowledges the initiative of DoLR for entrusting this national level endeavor with its profuse support in funding this project. The Project Team would like to place on record the ardent support provided by Shri Ruolkhumlien Buhiril, IAS, Secretary, Shri Anant Kumar Singh, IAS, Secretary (Former), Mrs. Veena Ish, Special Secretary (Former), Shri. Umakant, IFS, Joint Secretary (WM), Dr. C. P. Reddy, Deputy Commissioner, DoLR, Ministry of Rural Development in supporting this imposing national project.

On behalf of the entire Project Team, special note of gratitude is due to Dr. K. Sivan, Chairman, Indian Space Research Organisation and Secretary, Department of Space for evincing keen interest in the project. The Project Team is grateful to Shri. Santanu Chowdhury, Director, NRSC, for providing technical guidance and necessary facilities during the course of project execution.

Profound gratitude is due to Shri AS Kiran Kumar, former Chairman ISRO and Secretary, Department of Space, Dr. YVN Krishna Murthy and Dr. VK Dadhwal former Directors of NRSC, for their valuable guidance and abundant support in realising this project.

Accomplishment of a national project within a short time is a herculean task without the ardent support of all the State Remote Sensing Centres, Academia and allied institutions, Regional Remote Sensing Centres, North Eastern Space Applications Centre, across the country who obliged out-rightly to associate in this task. The Team acknowledges the unstinted support of Directors / Heads / General Managers and Scientists who burnt candles at both ends to accomplish this task.

Dr. T. Ravisankar, Dr. G. Ravi Shankar and all the Scientists from Land Use & Cover Monitoring Division deserve foremost commendation who stood the test of time with their inexhaustible stamina in completing the project. Thanks to Sri. P. V. Raju and Dr. Satish Ch. Jayanthi for meticulously going through the manuscript.

Thanks are due to Dr. N. Aparna, Group Head, NRSC Data Centre and her team who worked against the clock in satellite data planning and procurement required for the project.

Our special thanks go to the QC teams of NRSC for the untiring efforts in bringing out quality products of this project. Finally, our heartfelt thanks are due to all the Officials of DoLR and Officials of NRSC Administration, Finance & Accounts and Purchase & Stores for extending their valuable support in realizing this project.



(P. V. N. Rao)

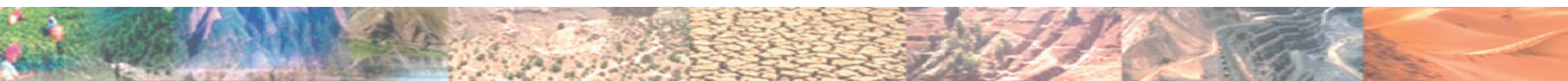
Deputy Director, RSA, NRSC
on behalf of Project Team

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EXECUTIVE SUMMARY

National assessment of wastelands began in 1984 as a demonstrative exercise of remote sensing application for identification and mapping of wastelands in the country on 1:1 million scale. Thereafter NRSA/NRSC has become the principal organisation to provide national level geospatial information on wastelands at the behest of the Department of Land Resources, Government of India.

This was followed by two efforts to map Wastelands at 1:50,000 scale at national level for use in treating such wastelands through various programs. All these three efforts were made using satellite data acquired during single season (Rabi). However, from 2005-06 onwards, satellite data acquired during Three seasons viz., Kharif, Rabi and Zaid were used to harness its potential for understanding the temporal behavior of wastelands for their improved delineation and value-addition to the final output. A standard mapping protocol with 23 wastelands classes, amenable to change detection studies aligned towards DoLRs requirements was adopted in this exercise.

The first wastelands change analysis study with an overarching goal of comparison of wastelands classes between 2005-06 and 2008-09 was accomplished based on the exploratory analysis of multi-temporal satellite data acquired during this period.

The present atlas synthesizes the catalytic role of remote sensing data in highlighting geospatial changes in wastelands that happened between 2008-09 and 2015-16. Resourcesat LISS III data acquired during Kharif, Rabi and Zaid seasons during 2015-16 amounting to about 900 scenes have been used to accomplish this task. The vector layer generated for the year 2008-09 was updated using the satellite data of 2015-16. The change vectors were later confirmed with limited field checks before finalising the wastelands layer of 2015-16 and tabulated the results. These changes are well articulated and presented in the form of change matrices for better understanding.

The total wasteland area of the country was observed to be 5,57,665.51 sq. km. (16.96 % to TGA) in 2015-16, while it was 5,66,070.36 sq. km. in 2008-09 (17.22%). During this period 14536 sq. km. of wastelands are converted in to non wastelands categories. There is a net conversion of 8,404.86 sq. km. (0.26 %) of different wasteland categories in the country during 2008-09 to 2015-16. A reduction in wastelands area was observed in the categories of Land with Dense Scrub, Waterlogged and Marshy land, Sandy areas, Degraded pastures/grazing land and Gullied and/or ravinous land.



1.0 Introduction

Land is a ubiquitous resource which is primarily providing the requirements of the basic elements of the life support system of our planet. As the demand of the escalating population is increasing, the tendency to overexploit this pristine resource is robbed of its legendary resilience. As a key provider of food, water, shelter and employment, the land, especially the productive land, is subjected to coerce with tremendous pressure making it turn into wastelands. In order to increase the biomass production and to restore the environmental health, preventive and curative measures need to be employed for rehabilitation of wastelands / degraded lands. In order to ensure food security, there is an urgent need to improve the productivity of existing cultivated lands, and to bring additional land under plough. The wastelands which are unutilized and have potential to produce food grain and provide vegetation cover, may significantly contribute in this endeavor. Information on the nature, extent, severity and dynamics of degradation is vital in this endeavor.

1.1 Project Background

Wastelands were portrayed in a spatial form for the first time in the year 1984 by NRSA/NRSC on 1:1 Million scale, which was coincided with the formation of the National Wastelands Development Board (NWDB). A modest beginning was made by the Government of India to tackle the challenge and the need for treating such wastelands across the country. Based on the requisition, maps depicting the spatial distribution of wastelands at 1 : 50,000 scale were made available for the country at district level to plan reclamation measures spreading across the years 1986-2000, 2003 and 2005-06. However, for the first time, wastelands change analysis was attempted between 2005-06 and 2008-09 time periods which brought out objective comparison of wastelands across the country. At the behest of DoLR, Ministry of Rural Development, NRSC has undertaken the current task of wastelands change analysis using temporal satellite data of 2008-09 and 2015-16. The favourable outcome of this study can be ascribed to the use of standardized mapping protocol, identical datum and map projection parameters, co-registered three seasons satellite data of 23 metres resolution amenable for mapping at 1 : 50,000 scale. The classification system adopted during earlier exercises encompassing 23 classes, mapping methodology and digital database standards were adhered to in the current study. The unsurveyed area which hitherto was not able to be accomplished because of its inaccessibility in the State of Jammu & Kashmir has been mapped in the current exercise, which was also updated for the year 2008-09. The limited ground data collection in these areas was well substituted by referring to high resolution satellite data. The influence of this is seen in slight increase in the area estimates of wastelands both in 2008-09 and 2015-16.

1.2 Goal and Objectives

The paramount goal of the current study is to articulate the spatial changes of different wastelands categories that happened between 2008-09 and 2015-16 for the country at 1 : 50,000 scale. Following are the detailed objectives that have been set forth for the study to further substantiate the above stated goal.

- Update wastelands maps of 2008 - 09 with 2015 -16 Resourcesat-2 LISS-III data and generate wastelands map of 2015-16;
- Identify and depict areas with major wastelands change between 2008 - 09 and 2015 -16;



- Creation of wastelands geospatial database and disseminating through Bhuvan geo-portal; and
- Preparation of wastelands category-wise spatial change statistics and summation in the form of atlas

1.3 Deliverables

Considering the project background and the primary intent of the project, following deliverables have been envisaged from the outcome of the project.

- Geospatial wastelands information and changes thereon between 2008-09 and 2015-16 at district-level
- State wise seamless geospatial wastelands information of 2015-16 for all the States and Union Territories.
- Atlas with maps and statistics.

2.0 Classification System

The wastelands classification system for 1: 50,000 scale that has been followed in the project is given in Table 1. In order to facilitate comparison between the two temporal wastelands vector datasets with respect to different classes and their spatial statistics and to identify the type of change, the number of wastelands classes in 2015-16 was kept the same as it was in 2008-09. Thus, the number of wastelands classes during both the mapping cycles remained 23. Nine non-wastelands classes have been shortlisted as the probable changes of wastelands to these classes during the course of change analysis (Table-2). The schema for classification was finalized after elaborate discussions with DoLR, MoRD. Feature codes for all the categories were discussed and finalized, keeping in view the NNRMS standard. The description of individual classes is given in Annexure-I.

Table – 1: Wastelands Classification system

S.No	Change Category	WL15-16
1	Gullied and/or ravinous land (Medium)	1
2	Gullied and/or ravinous land (Deep)	2
3	Land with Dense Scrub	3
4	Land with Open Scrub	4
5	Waterlogged and Marshy land (Permanent)	5
6	Waterlogged and Marshy land (Seasonal)	6
7	Land affected by salinity/alkalinity (Medium)	7
8	Land affected by salinity/alkalinity (Strong)	8
9	Shifting Cultivation Current Jhum	9
10	Shifting Cultivation Abandoned Jhum	10
11	Under - utilised/degraded forest (Scrub domain)	11
12	Under - utilised/degraded forest (Agriculture)	12
13	Degraded pastures/grazing land	13
14	Degraded land under plantation crop	14
15	Sands Riverine	15

S.No	Change Category	WL15-16
16	Sands Coastal	16
17	Sands-Desertic	17
18	Sands-Semi Stab Stab>40m	18
19	Sands-Semi Stab Stab 15- 40m	19
20	Mining Wastelands	20
21	Industrial Wastelands	21
22	Barren Rocky/Stony waste	22
23	Snow covered/Glacial area	23

Note: This classification system is evolved, based on the recommendations of Technical Task Force Group-1986 constituted by Planning Commission.

Table – 2: Probable Non-Wastelands Classes in 2015-16 Considered for Change Analysis

24	Built up	24
25	Industrial Area	25
26	Cropland	26
27	Fallow Land	27
28	Plantation	28
29	Forest-Dense/Open	29
30	Forest Plantation	30
31	Grasslands	31
32	Waterbodies	32

3.0 Methodology

The methodology essentially involves geo-referencing of satellite data, delineation of wastelands categories through on-screen visual interpretation technique based on legacy data and limited ground truth, quality check, harmonization with land degradation, land use/ land cover datasets and seamless database creation.

3.1 Input Data

The following input data has been used for carrying out the study.

- Wastelands vector layer created using multi-temporal satellite data of 2008-09
- Ortho-rectified Resourcesat-1 LISS-III imagery for year 2015-16 representing all three major cropping seasons of India (Kharif, Rabi and Zaid).
- High resolution satellite data available on Bhuvan along with legacy spatial data on wastelands and land use, reports, atlases have been consulted for improvements in interpretation process.
- Limited ground truth

3.2 Input Data Preparation

The LISS III data sets were checked for consistency with respect to band to band registration to ensure geometric accuracy up to sub-pixel level followed by ortho-rectification of the data using Shuttle Radar Topographic Mission (SRTM) DEM through an automated process.

3.3 Approach

The approach basically involved overlay of wastelands vector data of 2008-09 onto the 2015-16 LISS-III imagery and updating of wastelands categories by redrawing the boundary of 'change' areas through on- screen visual interpretation techniques.

Methodology involved the following steps:

- Overlay of 2008-09 wastelands vector layer on to the images of 2015-16
- Updating of wastelands categories depicted in 2008-09 layer with that of 2015-16 satellite data to find out the 'change' areas
- Extraction of wastelands change areas
- Random sample ground checks
- Extraction of area statistics and tabulation
- Atlas and reports

3.4 Image Interpretation

Wastelands (WL) 2008-09 vector layer was overlaid on the 2015-16 Rabi data. Changes in the polygons i.e., decrease, increase, new areas and change from one class to another class are identified and polygons are modified accordingly. The procedure is followed for the entire image grid-wise using the 15' x 15' grid. For new areas from non-wastelands category to a wasteland class, the new polygons are drawn and appropriately recoded. For change from one wasteland class to another, the polygons are selected and the attribute table is updated to an appropriate class once the modification of the wastelands polygons is complete for rabi season, then the data is updated using the satellites images of other two seasons. The change map between 2008-09 and 2015-16 was made ready after updating with Three season satellite data, and the new attribute codes of wastelands polygons are generated. Change statistics and change matrix tables are generated from the attribute data.

3.5 Refinements in 2008-09 Database

During the process of the interpretation for 2015-16, the wastelands vector database of 2008-09 was used as a base. In the span of more than Five years many developments have taken place in the process of satellite image data processing. These developments have led to preparation of more accurate thematic information derived from this imagery. Keeping these in view Version - 2 of wastelands database were prepared before proceeding to carryout current exercise of wastelands change analysis. Following are some of the factors which necessitated in bringing out Version - 2 Wastelands database for the year 2008-09:

3.5a Availability of Additional Satellite Data

It was envisaged to use 3 seasons' data during this project as was done during the earlier two exercises. Use of three season data has its limitation in delineating some of the classes, especially which are season specific. Use of multiple images can make the interpretation more robust thereby improving the classification accuracy. Availability of time series satellite data across the year helped in bringing out improvement in the classification process.



For example, agriculture class (non-wastelands) has the strongest seasonal fluctuation of its reflectance characteristics with a tendency to have a similar spectral response as that of shrubs, grasses and fallow land. With the scope of more number of usable growing season images, the accuracy of delineation of wastelands categories improved. Similarly, areas inundated with water are to be classified as waterlogged with appropriate imagery. If image is acquired during lean period, the feature will tend to be interpreted as a non-wastelands. This is analogous to Snow / Barren Rocky / Degraded Pastures / Grazing Lands.

3.5b Accessibility to High Resolution Images

Accessibility to high resolution data (Cartosat PAN, LISS-IV etc.) has resulted in availability of more detailed information on wastelands with crisper feature boundaries that enabled their delineation with better precision. These datasets provided a wealth of information, especially for inaccessible and disturbed areas where ground data collection was a constraint.

3.5c Concurrent Mapping of Land Use / Land Cover with Wastelands

This is the first change analysis exercise taken up concurrently with land Use / land cover (LULC) mapping using same satellite imagery of 2015-16 under the ISRO-NNRMS program at an interval of 5 years. Outcome of LULC mapping was published on ISRO Geo web portal Bhuvan and this data was shared with many users like Ministry of Statistics & Programme Implementation, Ministry of New and Renewable Energy, State Government Department etc.

In this exercise, total geographical area is assigned to one or another category of LULC class. In the case of wastelands mapping, only areas under wastelands are classified leaving aside the non-wastelands. Furthermore, most of the wastelands classes are integral part of LULC database.

Due to this reason wastelands classes are necessitated to be harmonised with respect to LULC.

3.5d Interchange of Region Specific Classes

Certain classes like Snow Covered areas in Himalayan states, Rann in Gujarat & Rajasthan, Shifting Cultivation in North Eastern states needs to be revisited due to availability of more temporal data and accessibility to high resolution data, which in turn helped in better delineation.

For example, Interpretation of snow covered areas require satellite data acquired during least snow cover period, which was a limitation with three season satellite data. So also for the Rann wherein the peripheral areas are interpreted as Salt Affected / Water Logged / Scrub. Similarly is the case with Shifting Cultivation areas in the North Eastern States.

3.5e Feedback

The users of wastelands database have provided feedback for the improvement in the wastelands classes for the year 2008-09.

This is an accepted process of bringing out improved Version of thematic database prepared using satellite remote sensing data which is also being followed in the LULC mapping process. The same process has been extended in creating Version - 2 wastelands database.



3.6 Ground Truth Collection

Once the polygons were updated with a WL_Code, the doubtful classes / areas in the database were verified on the ground for improving the accuracy of interpretation. It was ensured that at least 20% ground truth collection of the change areas was done.

3.7 Geodatabase Creation & Mapping Standards

Geodatabase consists of vector data on various wastelands categories and an associated metadata, which describes the data content. These categorical data sets are the primary source of input for GIS database under NNRMS Repository. The tolerable limit for registration of image to the spatial framework in thematic mapping is half pixel i.e., 12m (approx.) considering the resolution of LISS III data. Albers Equal Area Projection (AEA) with WGS-84 datum has been adopted in the current mapping exercise. The positional accuracy is maintained at 50m (i.e., 1 mm of scale) RMSE. Minimum Mappable Unit (MMU) is size of the smallest feature that would be mapped at a scale and is defined at 3mm x 3mm of scale. For, 1:50,000 scale, the MMU is 22,500 sq.m. and all features below this area were not considered for mapping. The thematic accuracy of classification/mapping were maintained at 90% with 85% confidence level. The thematic maps will be stored in digital formats and in the form of a printed Atlas. The accuracies of the output of wastelands maps would depend upon the GIS database standards.

Details of the above NNRMS standards adopted in this project are provided under Annexure - II

3.8 Quality Assurance Mechanism

A two-fold quality assurance mechanism involving in-process quality control by the Internal Quality Checking (IQC) team members at Partner Institutions and external quality audit by External Quality Checking (EQC) team was adopted. IQC team consists of experts from participating organisation (organisation involved in mapping exercise or a specific study area) and EQC team composed of serving as well as retired experts from ISRO / DOS centres. The digital database quality standards finalized under NNRMS Programme of Natural Resources Repository (NRR) were followed in this project. The QAS standards included parameters such as geo-rectification accuracy, interpretation, classification, area estimation, geodatabase etc.

IQC was done for all the input and output products. Once the IQC Team cleared the outputs and other intermediate products, the EQC team evaluated the quality of the product, by evaluating a minimum of 20% of the products. The products whose samples did not meet the quality standards were reworked for incorporation of necessary corrections in the sample as well as in rest of the products. On incorporating the suggested changes in all the products based on the advice of the EQC, the IQC team ensures compliance and then the products are accepted. Only those outputs meeting the accuracy standards were cleared for incorporation in to the geo database.

3.9 Database Organisation

All the databases were first checked for edge-matching across inter- district and inter-state borders so that data gaps and overlaps are eliminated amongst the datasets of different states. The wastelands feature classes are also matched across these borders to maintain the data continuity and to facilitate



generation of a seamless dataset for the entire country. Entire wastelands mapping exercise is carried out by following NNRMS Image and GIS database standards. The NNRMS standard followed in the project is given under Annexure-II.

3.10 Spatial Statistics

The area statistics on various wastelands classes for 2015-16 and changes observed in wastelands status during 2015-16 vis-a vis 2008-09 (Category-wise; and state-wise at national level; category-wise and district-wise at state level; and category-wise at individual district level) were generated. A change matrix table depicting the inter-class change during 2015-16 and 2008-09 has also been generated at national and state levels. The data are presented in tables in the subsequent pages. The area estimation has been done adopting individual district geographical area as per earlier Wastelands Atlas 2011 (based on multi-season satellite data of 2008-09) records. For individual states, the spatial distribution of wastelands classes for 2015-16 and the spatial changes during 2008-09 and 2015-16 were depicted in the form of maps. Since latest district boundary is not available in GIS format, the layer used in previous cycle has been followed. Some of the wastelands changes, as observed on satellite images, have been captured and presented in the Atlas, for visual appreciation and better understanding of the results.

3.11 Results

The results from analysis of statistics are presented and discussed for drawing valid conclusions from the study.

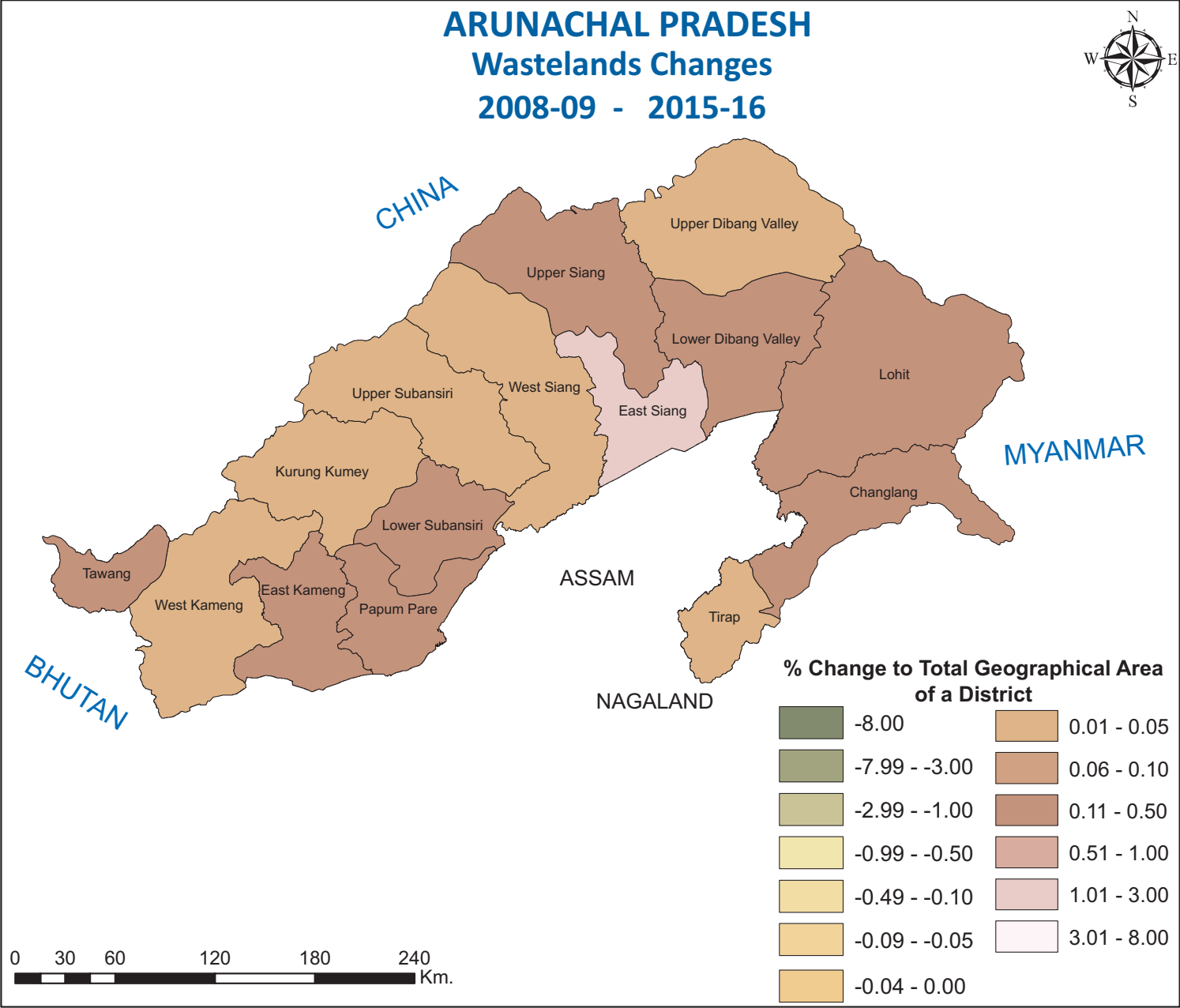
- In the Table: State wise total area under wastelands reveals the spatial extent of different categories of wastelands in each state. The total wastelands area of the country was observed to be 5,57,665.51 sq. km. in 2015-16, while it was 5,66,070.36 sq. km. in 2008-09. This indicates a conversion of 8,404.86 sq. km. of different wastelands categories in the country to non-wastelands during 2008-09 to 2015-16.
- Comparison of wastelands statistics of all the states indicated a decrease in wastelands in 18 states and an increase in wastelands in 11 states of the country. A major positive change is observed in the state of Rajasthan with a conversion of 4,803.56 sq. km. of sandy wastelands area to non-wastelands. This was followed by Uttar Pradesh and Bihar states where a respective change of 1,082.29sq. km. and 1,130.07 sq. km. wastelands area has been brought under utilization. Conversely, increase in wastelands was observed in the states of Odisha (465.82sq. km.) followed by Assam (406.69sq. km.), Telangana (377.79 sq. km.) and Chhattisgarh states (373.54 sq. km.).
- A reduction in wastelands was observed in the category of 'Land with Dense Scrub' followed by 'Snow/Glacial Cover' and 'Sands-Semi Stabilized - 15- 40m'. 'Barren Rocky/Stony waste' and 'Land with Open Scrub' followed by 'Under-utilised/Degraded Forest (Agriculture domin)' are the wastelands categories that indicated a marked increase from 2008-09 to 2015-16 (Table: category wise total area under wastelands). Statistics indicate that highest change from wastelands to non-wastelands area is recorded under 'Cropland' class in 2015-16. A considerable change has also been observed in Forest (Open/Dense) and Fallow Land classes from 2008-09 to 2015-16.



- A total of 90,950 polygons (summing up to 14,536.33 sq. km. of land) were converted to non-wastelands from 2008-09 to 2015-16, while 25,994 polygons (an area of 6131.47 sq. km.) were noticed to be converted from non-wastelands to wastelands in the same period (Table: India-Wastelands Area Change Matrix).
- Interclass wastelands changes have dominantly taken place between Snow Covered/Glacial and Barren Rocky classes, Land with Dense Scrub and Land with Open Scrub, Shifting Cultivation Abandoned and Current Shifting Cultivation. The decrease in 'Snow Covered/Glaciers' may be attributed to the seasonal dynamics of snowfall pattern, which exhibits inter-annual variations. This decrease has come expectedly from surrounding 'Barren Rocky/Stony Waste' class whose spatial extent increased upon conversion from Snow Cover.

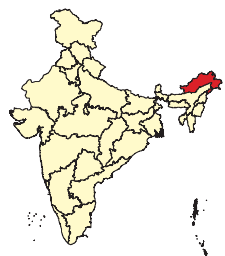
An area of 1,20,849.00 sq. km. of Jammu & Kashmir was not mapped in the previous Wastelands Mapping cycles. In the current exercise, this area is also mapped. Due to this inclusion, Wastelands area has been revised from 75,435.77 sq. km. to 1,76,080.25 sq. km. for 2008-09. For the year 2015-16, Wastelands area is reported to be 1,75,697.01 sq. km. Hence, there is a net reduction of Wastelands by 383.24 sq. km. (0.17%) in Jammu & Kashmir state.





Salient Features

- Increase in area under wastelands by 167.47 sq. km. (changed from non-wastelands);
- **Shifting cultivation – abandoned Jhum** increased in area by 256.72 sq. km.;
- Decrease in area **shifting cultivation - Current Jhum** by 312.56 sq. km.;
- East Siang district witnessed increase of 58.44 sq. km. wastelands area due to **Shifting Cultivation - Current**



ARUNACHAL PRADESH

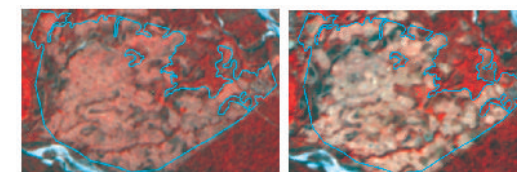
Spatial Distribution of Wastelands

2015-16

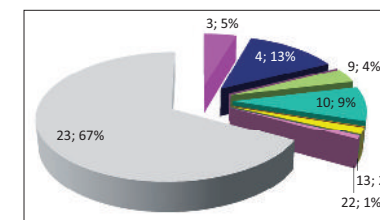


Legend

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- International Boundary
- State Boundary
- District Boundary
- Railways
- Major Roads



Lat : 27.909498N Long : 95.255408E
Dist: Arunachal Pradesh
08-09 : Cropland; 15-16 : Shifting cultivation



0 25 50 100 150 200 Kms

Partner Inst.
Arunachal Pradesh Council for Science & Technology
Maung Phi Complex, ESS Sector
Itanagar - 791 113

Executed By
Land Use & Cover Monitoring Divn.
LRUMG, Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by
Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011

Total Geog. Area (TGA): 83743.00 sq. km.
Total wasteland area : 13906.16 sq. km.
Wasteland Percentage: 16.60

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

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Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16										WL 2008-09 becoming non WL in 2015-16			2008-09	
	3	4	5	9	10	11	12	13	22	23	24	29	30	Category Total	Grand Total
3	622.53			3.14	4.01									629.67	13738.70
4	10.53	1511.16		76.56	1.10					0.96				1600.32	
9		5.68	0.05	250.83	565.02						0.09			821.67	
10		293.82		25.45	627.89						0.07	0.24	0.03	947.50	
11				3.11	1.96	16.80	8.73				0.13	0.97		31.70	
12							0.59							0.59	
13								253.52						253.52	
22					0.63				123.31					123.94	
23	0.48									9329.30				9329.78	
999		7.59	1.23	150.02	3.61		5.62		0.92						
Category Total (2015-16)	633.53	1818.25	1.28	509.11	1204.22	16.80	14.94	253.52	124.24	9330.26	0.29	1.21	0.03		
Grand Total (2015-16)	13906.16														

WL Category	Reduction from 0809 to 1516		Reduction from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3				
4			7.59	21
5			1.23	6
9	0.09	1	150.02	872
10	0.34	3	3.61	35
11	1.10	8		
12			5.62	9
13				
22			0.92	19
23				
Total	1.53	12	169.00	962

Wastelands becoming Non-wastelands (-) 1.53
 Non-wastelands becoming Wastelands (+) 169.00
 NET Change (2015 - 16) - (2008 - 09) (+) 167.47

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes				Non-Wasteland Classes			
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic		24. Built-up			
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m		25. Industrial Area			
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m		26. Cropland			
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands		27. Fallow Land			
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands		28. Plantation			
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste		29. Forest-Dense/Open			
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area		30. Forest Plantation			
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area		31. Grasslands			
				32. Waterbodies			

Arunachal Pradesh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Changlang	2008-09	--	--	0.76	14.71	--	--	--	--	39.07	41.15	1.13
	2015-16	--	--	0.80	15.28	--	--	--	--	24.96	70.57	0.75
	Change	--	--	0.05	0.56	--	--	--	--	-14.11	29.43	-0.38
East Kameng	2008-09	--	--	5.15	7.00	--	--	--	--	49.64	22.77	--
	2015-16	--	--	5.15	7.69	--	--	--	--	17.45	64.43	--
	Change	--	--	0.00	0.69	--	--	--	--	-32.18	41.67	--
East Siang	2008-09	--	--	51.99	83.74	--	--	--	--	21.16	14.90	0.12
	2015-16	--	--	54.37	38.58	0.51	--	--	--	114.81	22.09	--
	Change	--	--	2.38	-45.16	0.51	--	--	--	93.65	7.19	-0.12
Kurung Kumey	2008-09	--	--	108.61	63.62	0.00	--	--	--	12.21	52.38	1.01
	2015-16	--	--	108.57	63.62	--	--	--	--	5.69	60.19	--
	Change	--	--	-0.04	0.00	--	--	--	--	-6.52	7.80	-1.01
Lohit	2008-09	--	--	29.98	25.46	--	--	--	--	30.67	83.38	0.03
	2015-16	--	--	30.08	46.39	0.72	--	--	--	29.89	90.08	0.03
	Change	--	--	0.10	20.93	0.72	--	--	--	-0.77	6.70	0.00
Lower Dibang Valley	2008-09	--	--	1.29	21.09	0.00	--	--	--	8.97	12.03	0.43
	2015-16	--	--	1.03	23.23	--	--	--	--	9.21	17.59	--
	Change	--	--	-0.26	2.14	--	--	--	--	0.24	5.56	-0.43
Lower Subansiri	2008-09	--	--	142.44	92.67	--	--	--	--	85.80	71.89	0.26
	2015-16	--	--	139.81	95.70	--	--	--	--	33.19	128.88	--
	Change	--	--	-2.63	3.04	--	--	--	--	-52.60	56.99	-0.26
Papum Pare	2008-09	--	--	8.09	9.17	--	--	--	--	97.95	21.48	0.27
	2015-16	--	--	8.13	15.66	--	--	--	--	28.02	90.87	--
	Change	--	--	0.04	6.49	--	--	--	--	-69.93	69.39	-0.27
Tawang	2008-09	--	--	62.84	583.20	--	--	--	--	12.35	8.29	0.21
	2015-16	--	--	61.74	568.63	--	--	--	--	21.36	16.90	--
	Change	--	--	-1.11	-14.57	--	--	--	--	9.01	8.61	-0.21
Tirap	2008-09	--	--		2.90	--	--	--	--	176.05	295.03	28.07
	2015-16	--	--	2.53	264.65	0.05	--	--	--	20.15	190.80	16.02
	Change	--	--	2.53	261.75	0.05	--	--	--	-155.90	-104.23	-12.05
Upper Dibang Valley	2008-09	--	--	0.26	16.72	0.00	--	--	--	73.69	112.41	0.06
	2015-16	--	--	0.26	16.72	--	--	--	--	76.64	109.55	--
	Change	--	--	0.00	0.00	--	--	--	--	2.94	-2.86	-0.06
Upper Siang	2008-09	--	--	7.51	60.28	--	--	--	--	23.65	14.56	0.11
	2015-16	--	--	6.98	60.41	--	--	--	--	29.29	30.58	--
	Change	--	--	-0.53	0.13	--	--	--	--	5.64	16.02	-0.11
Upper Subansiri	2008-09	--	--	8.74	1.63	--	--	--	--	59.20	41.42	--
	2015-16	--	--	8.74	1.22	--	--	--	--	20.83	83.18	--
	Change	--	--	0.00	-0.41	--	--	--	--	-38.37	41.76	--
West Kameng	2008-09	--	--	192.52	523.92	--	--	--	--	48.58	35.41	--
	2015-16	--	--	195.85	505.75	--	--	--	--	49.22	50.96	--
	Change	--	--	3.33	-18.16	--	--	--	--	0.64	15.55	--

Note: “--” Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	0.03	--	--	--	--	--	--	--	--	5.36	19.82	122.03	5069
--	0.03	--	--	--	--	--	--	--	--	5.37	19.82	137.59	
--	0.00	--	--	--	--	--	--	--	--	0.02	0.00	15.55	
--	--	--	--	--	--	--	--	--	--	3.75	0.12	88.43	4134
--	--	--	--	--	--	--	--	--	--	3.78	0.12	98.63	
--	--	--	--	--	--	--	--	--	--	0.03	0.00	10.20	
--	163.24	--	--	--	--	--	--	--	--	5.19	--	340.35	4687
--	163.24	--	--	--	--	--	--	--	--	5.19	--	398.79	
--	0.00	--	--	--	--	--	--	--	--	0.00	--	58.44	
--	--	--	--	--	--	--	--	--	--	2.94	668.12	908.89	7141
--	--	--	--	--	--	--	--	--	--	2.94	668.12	909.12	
--	--	--	--	--	--	--	--	--	--	0.00	0.00	0.23	
--	78.55	--	--	--	--	--	--	--	--	59.16	2272.59	2579.81	11402
--	78.55	--	--	--	--	--	--	--	--	59.16	2272.59	2607.48	
--	0.00	--	--	--	--	--	--	--	--	0.00	0.00	27.67	
--	2.77	--	--	--	--	--	--	--	--	10.38	251.73	308.69	4070
0.29	2.77	--	--	--	--	--	--	--	--	10.54	251.73	316.39	
0.29	0.00	--	--	--	--	--	--	--	--	0.16	0.00	7.70	
0.59	--	--	--	--	--	--	--	--	--	2.74	--	396.39	2994
1.22	--	--	--	--	--	--	--	--	--	2.74	--	401.55	
0.63	--	--	--	--	--	--	--	--	--	0.00	--	5.16	
0.00	--	--	--	--	--	--	--	--	--	1.79	0.04	138.77	2875
4.99	--	--	--	--	--	--	--	--	--	1.85	0.04	149.56	
4.99	--	--	--	--	--	--	--	--	--	0.07	0.00	10.78	
--	--	--	--	--	--	--	--	--	--	6.71	538.94	1212.54	2172
--	--	--	--	--	--	--	--	--	--	6.74	539.49	1214.86	
--	--	--	--	--	--	--	--	--	--	0.03	0.55	2.32	
--	--	--	--	--	--	--	--	--	--	0.06	--	502.12	1955
8.45	--	--	--	--	--	--	--	--	--	0.06	--	502.71	
8.45	--	--	--	--	--	--	--	--	--	0.00	--	0.59	
--	8.87	--	--	--	--	--	--	--	--	3.47	2673.88	2889.37	8959
--	8.87	--	--	--	--	--	--	--	--	3.47	2673.88	2889.39	
--	0.00	--	--	--	--	--	--	--	--	0.00	0.00	0.02	
--	0.07	--	--	--	--	--	--	--	--	7.71	841.46	955.35	6188
--	0.07	--	--	--	--	--	--	--	--	7.71	841.46	976.50	
--	0.00	--	--	--	--	--	--	--	--	0.00	0.00	21.16	
--	--	--	--	--	--	--	--	--	--	0.02	848.97	959.98	7032
--	--	--	--	--	--	--	--	--	--	0.02	848.97	962.96	
--	--	--	--	--	--	--	--	--	--	0.00	0.00	2.99	
--	--	--	--	--	--	--	--	--	--	7.75	760.72	1568.90	7422
--	--	--	--	--	--	--	--	--	--	7.75	760.65	1570.18	
--	--	--	--	--	--	--	--	--	--	0.00	-0.07	1.29	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal
17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area

Arunachal Pradesh Contd....

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
West Siang	2008-09	--	--	9.50	94.21	--	--	--	--	82.67	120.41	--
	2015-16	--	--	9.50	94.71	--	--	--	--	28.38	177.55	--
	Change	--	--	0.00	0.50	--	--	--	--	-54.29	57.14	--
Grand Total	2008-09	--	--	629.67	1600.32	--	--	--	--	821.67	947.50	31.70
	2015-16	--	--	633.53	1818.25	1.28	--	--	--	509.11	1204.22	16.80
	Change	--	--	3.86	217.93	1.28	--	--	--	-312.56	256.72	-14.90

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

Arunachal Pradesh Contd....

Wastelands Area Changes – 2008-09 and 2015-16

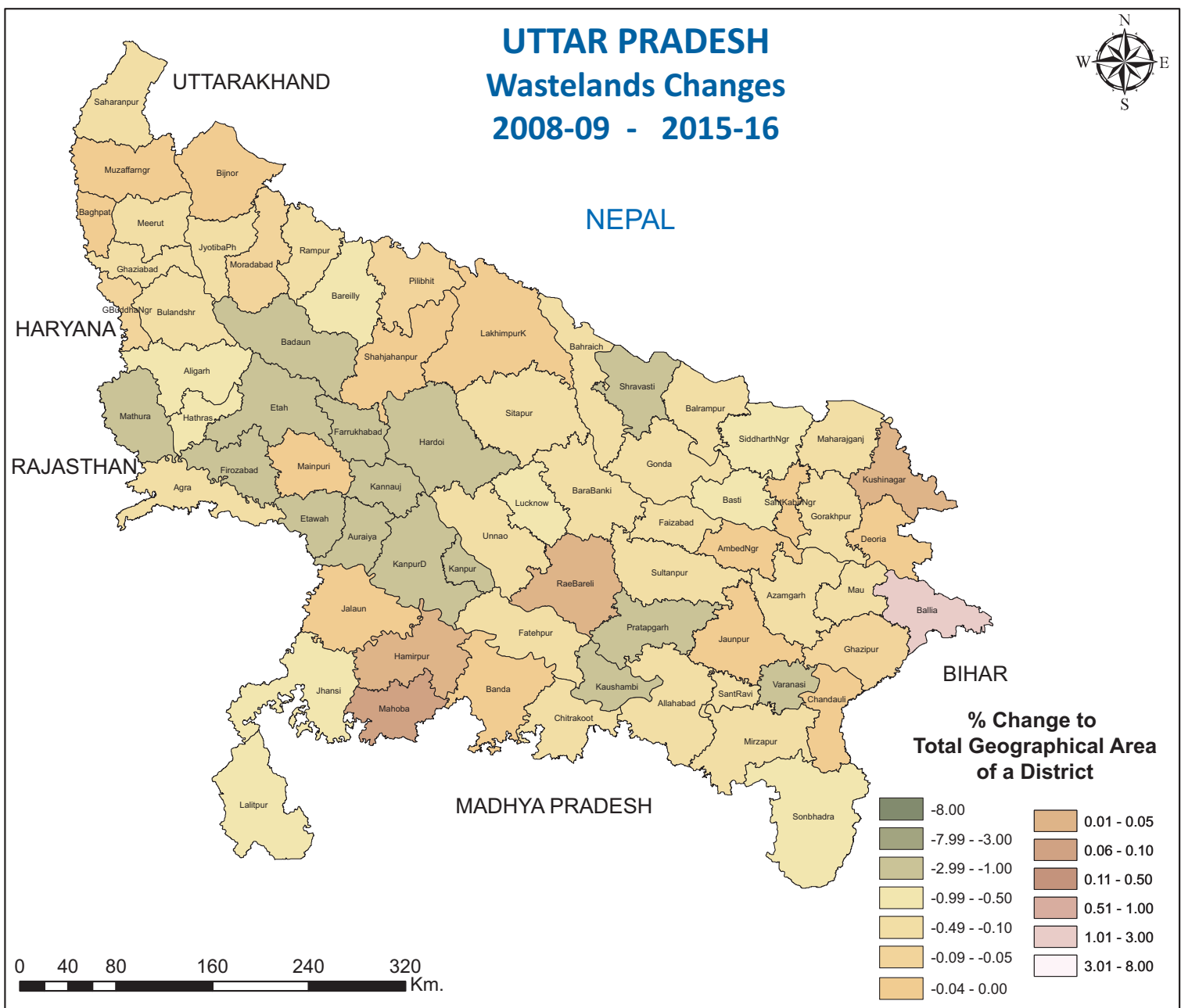
Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	--	--	6.92	453.39	767.10	7643
--	--	--	--	--	--	--	--	--	--	6.92	453.39	770.46	
--	--	--	--	--	--	--	--	--	--	0.00	0.00	3.35	
0.59	253.52	--	--	--	--	--	--	--	--	123.94	9329.78	13738.70	83743
14.94	253.52	--	--	--	--	--	--	--	--	124.24	9330.26	13906.16	
14.35	0.00	--	--	--	--	--	--	--	--	0.30	0.48	167.47	

Note: "--" Denotes this Class is not existing in the District / State

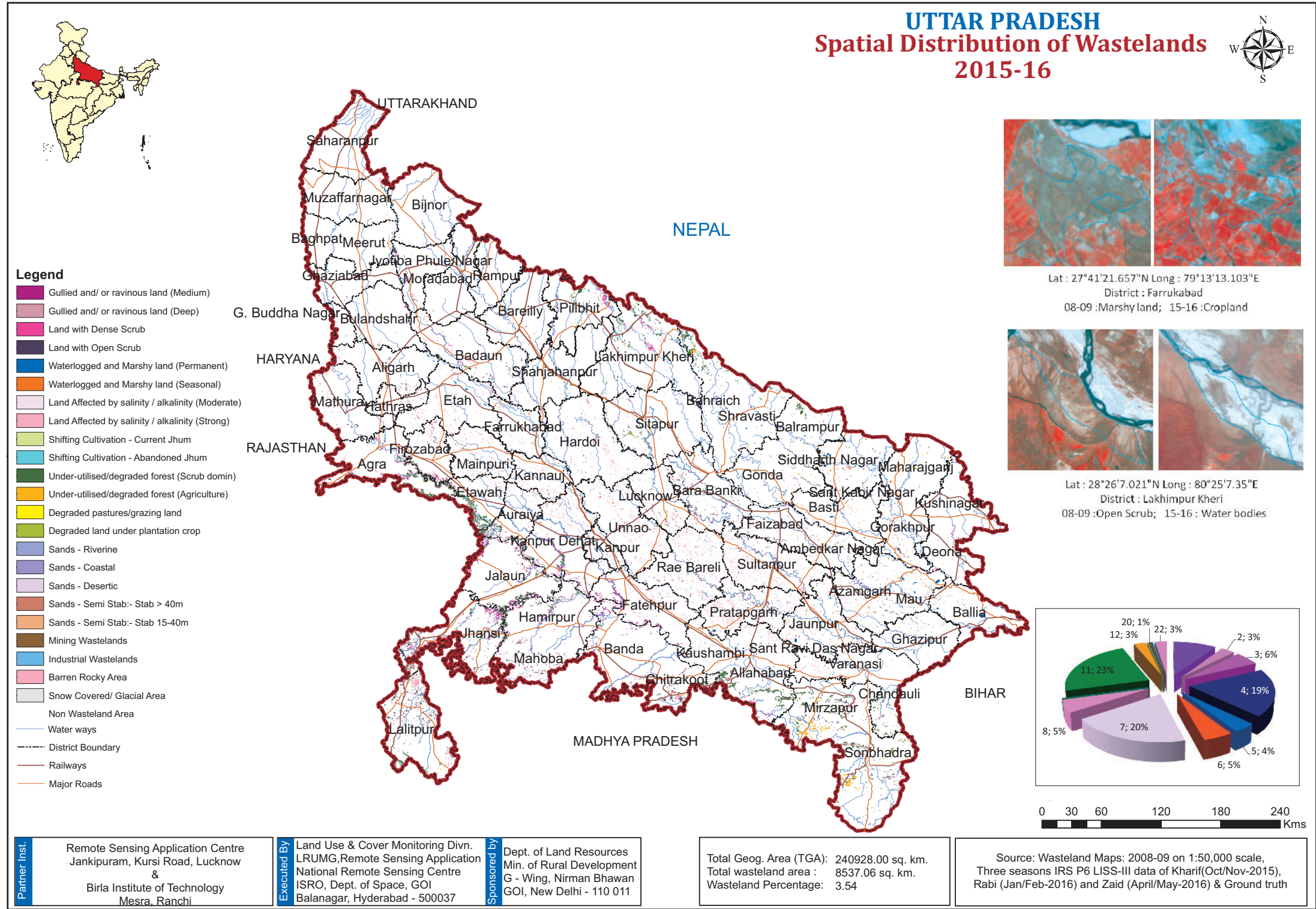
2008-09 Wastelands statistics are revised version.

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Decrease of net area under wastelands by 1082.29 sq. km. is observed in the state
- 988.36 sq. km. of wastelands area is converted to cropland, contributed by **land affected by salinity/alkalinity** and **land with openscrub**; an area of 89.09sq. km. is converted to water body.
- Wastelands area under Hardoi district has decrease by 79.25sq. km. and Kanpur Dehat by 72.19 sq. km.
- Balliya district witnessed an increase in wastelands by 32.01 sq. km. and Maharajganj district by 1.83 sq. km.



UTTAR PRADESH

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16																WL 2008-09 becoming non WL in 2015-16								2008-09	
	1	2	3	4	5	6	7	8	11	12	13	14	15	20	21	22	24	25	26	27	28	29	30	32	Category Total	Grand Total
1	793.88	5.85	1.44	4.03		0.25	0.79										0.76	0.45	35.78	0.31				0.05	843.60	9619.35
2		244.98		0.07													0.38		15.46						260.90	
3			415.92	62.09	0.23	0.62	0.98						0.91	0.96	0.29		4.70	0.26	117.64	7.52	1.42		0.47	46.30	660.32	
4	0.90	0.00	12.68	1450.00	1.35	2.51	1.17	0.35					2.00	1.73	1.23		7.91	9.36	251.49	19.13	1.38	0.51	0.02	22.51	1786.23	
5			1.29	5.76	314.42	10.40	1.11										0.04		63.23	0.12	0.99			0.95	398.31	
6			11.61	13.83	1.70	407.02	3.48	0.24	0.33	0.05			0.09	0.03			3.21	1.07	158.52	3.42	0.96			1.67	607.22	
7			8.81	35.64	0.34	0.34	1659.15	7.51							7.29		15.52	1.85	292.09	2.01	0.50			0.28	2031.32	
8			1.73	2.03			28.85	418.36							0.29		4.18		33.72		0.11			0.06	489.34	
11	7.29	9.34						0.00	1932.83	13.31				0.60								3.79	16.31	9.59	1993.06	
12									3.95	209.53												5.38	0.05	0.62	219.53	
13											0.59														0.59	
14				1.04								8.58							0.06						9.68	
15			0.39	5.23									8.41				0.06		20.24	0.25	0.22			7.06	41.85	
20						0.09								44.45		0.54		0.03	0.12			0.30			45.54	
21															11.72										11.72	
22				0.42										1.68		218.05									220.15	
999	2.44	0.82	16.26	45.08	5.16	6.45	7.02	0.60	21.34	0.02			1.78	1.06	2.03	0.03										
Category Total (2015-16)	804.51	260.99	470.12	1625.22	323.20	427.69	1702.55	427.06	1958.46	222.90	0.59	8.58	13.19	50.52	22.86	218.62	36.77	13.03	988.36	32.76	5.56	9.98	16.86	89.09		
Grand Total (2015-16)	8537.06																									

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	37.36	270	2.44	8
2	15.85	104	0.82	4
3	178.32	800	16.26	27
4	312.30	2340	45.08	168
5	65.32	217	5.16	13
6	168.85	716	6.45	33
7	312.25	5338	7.02	95
8	38.07	560	0.60	12
11	29.70	67	21.34	41
12	6.05	9	0.02	1
13				
14	0.06	2		
15	27.82	195	1.78	12
20	0.45	9	1.06	16
21			2.03	9
22			0.03	1
Total	1192.40	10627	110.11	440

Wastelands becoming Non-wastelands (-) **1192.40**
 Non-wastelands becoming Wastelands (+) **110.11**
 NET Change (2015 - 16) - (2008 - 09) (-) **1082.29**

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes		Non-Wasteland Classes	
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Uttar Pradesh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Agra	2008-09	58.60	61.03	9.82	60.72	--	0.42	7.85	0.27	--	--	227.65
	2015-16	52.59	56.40	7.82	48.61	--	0.07	5.14	0.07	--	--	242.34
	Change	-6.01	-4.63	-2.00	-12.12	--	-0.35	-2.71	-0.20	--	--	14.69
Aligarh	2008-09	--	--	1.29	14.48	19.45	8.95	21.70	7.02	--	--	3.68
	2015-16	--	--	3.39	7.53	14.45	4.25	12.36	4.55	--	--	3.68
	Change	--	--	2.11	-6.95	-5.01	-4.70	-9.33	-2.47	--	--	0.00
Allahabad	2008-09	13.43	--	2.07	63.36	2.31	10.42	12.09	12.74	--	--	175.25
	2015-16	13.30	--	1.75	52.72	0.55	10.43	12.27	12.23	--	--	170.11
	Change	-0.13	--	-0.32	-10.64	-1.76	0.01	0.18	-0.52	--	--	-5.14
Ambedkar Nagar	2008-09	--	--	--	11.24	7.02	14.41	7.37	3.48	--	--	--
	2015-16	--	--	--	11.46	6.45	14.11	7.80	3.18	--	--	--
	Change	--	--	--	0.22	-0.57	-0.30	0.43	-0.30	--	--	--
Auraiya	2008-09	12.59	42.87	--	0.20	--	3.33	83.25	14.28	--	--	78.24
	2015-16	10.10	37.30	--	0.27	--	0.79	64.61	11.59	--	--	78.24
	Change	-2.49	-5.57	--	0.07	--	-2.54	-18.64	-2.69	--	--	0.00
Azamgarh	2008-09	--	--	5.36	43.59	11.66	27.79	52.80	19.59	--	--	--
	2015-16	--	--	4.63	45.24	11.32	20.31	58.34	13.77	--	--	--
	Change	--	--	-0.73	1.65	-0.35	-7.48	5.55	-5.83	--	--	--
Badaun	2008-09	0.73	--	68.47	42.31	3.45	3.35	8.19	14.04	--	--	26.75
	2015-16	--	--	37.92	21.94	1.81	1.93	7.36	9.46	--	--	26.39
	Change	-0.73	--	-30.55	-20.36	-1.63	-1.42	-0.83	-4.58	--	--	-0.37
Baghpat	2008-09	--	--	0.68	--	--	--	--	--	--	--	1.56
	2015-16	--	--	0.15	0.38	--	--	--	--	--	--	1.51
	Change	--	--	-0.53	0.38	--	--	--	--	--	--	-0.05
Bahraich	2008-09	--	--	10.39	15.99	11.42	9.31	--	--	--	--	126.70
	2015-16	--	--	1.53	12.99	11.50	8.87	--	--	--	--	125.52
	Change	--	--	-8.86	-2.99	0.09	-0.45	--	--	--	--	-1.18
Ballia	2008-09	--	--	6.29	21.05	25.07	9.61	6.21	1.66	--	--	--
	2015-16	--	--	17.35	41.90	25.04	9.78	6.20	1.63	--	--	--
	Change	--	--	11.06	20.85	-0.03	0.17	-0.01	-0.03	--	--	--
Balrampur	2008-09	--	--	7.41	13.20	8.04	11.01	0.65	--	--	--	45.77
	2015-16	--	--	6.45	11.04	9.25	5.27	0.65	--	--	--	44.75
	Change	--	--	-0.96	-2.16	1.21	-5.74	0.00	--	--	--	-1.02
Banda	2008-09	109.32	--	5.11	20.34	--	0.25	1.35	0.20	--	--	6.30
	2015-16	109.32	--	4.45	20.58	--	0.25	1.35	0.20	--	--	6.30
	Change	0.00	--	-0.66	0.25	--	0.00	0.00	0.00	--	--	0.00
Bara Banki	2008-09	5.67	--	28.19	46.47	14.54	17.85	30.24	14.51	--	--	3.51
	2015-16	5.67	--	14.02	55.32	7.31	14.93	29.89	14.06	--	--	3.51
	Change	0.00	--	-14.17	8.85	-7.23	-2.92	-0.36	-0.46	--	--	0.00
Bareilly	2008-09	--	--	3.00	23.19	0.39	0.63	3.04	2.68	--	--	--
	2015-16	--	--	1.64	14.87	0.08	0.18	2.24	2.01	--	--	--
	Change	--	--	-1.36	-8.32	-0.31	-0.45	-0.80	-0.67	--	--	--

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
0.65	0.46	--	0.43	--	--	--	--	--	--	12.36	--	440.27	4027
1.12	0.46	--	0.16	--	--	--	--	--	--	11.97	--	426.74	
0.47	0.00	--	-0.27	--	--	--	--	--	0.00	-0.39	--	-13.53	
--	--	--	--	--	--	--	--	--	1.72	--	--	78.28	3509
--	--	--	--	--	--	--	--	--	1.72	--	--	51.92	
--	--	--	--	--	--	--	--	--	0.00	--	--	-26.36	
0.20	--	--	1.47	--	--	--	--	4.35	0.01	24.40	--	322.09	5152
1.54	--	--	1.03	--	--	--	--	6.04	0.01	23.42	--	305.40	
1.34	--	--	-0.44	--	--	--	--	1.69	0.00	-0.98	--	-16.70	
--	--	--	--	--	--	--	--	0.02	--	--	--	43.53	2310
--	--	--	--	--	--	--	--	0.05	--	--	--	43.04	
--	--	--	--	--	--	--	--	--	--	--	--	-0.49	
0.19	--	--	--	--	--	--	--	--	1.30	--	--	236.24	2180
0.19	--	--	--	--	--	--	--	--	1.54	--	--	204.64	
0.00	--	--	--	--	--	--	--	--	0.25	--	--	-31.60	
--	--	--	--	--	--	--	--	--	--	--	--	160.79	4234
--	--	--	--	--	--	--	--	0.24	--	--	--	153.84	
--	--	--	--	--	--	--	--	0.24	--	--	--	-6.95	
0.28	--	--	--	--	--	--	--	--	--	--	--	167.57	5168
0.65	--	--	--	--	--	--	--	--	--	--	--	107.47	
0.37	--	--	--	--	--	--	--	--	--	--	--	-60.10	
0.03	--	--	--	--	--	--	--	--	--	--	--	2.27	1244
0.08	--	--	--	--	--	--	--	--	--	--	--	2.12	
0.05	--	--	--	--	--	--	--	--	--	--	--	-0.15	
21.12	--	--	0.56	--	--	--	--	0.65	--	--	--	196.14	4396
21.12	--	--	2.67	--	--	--	--	0.89	--	--	--	185.09	
0.00	--	--	2.11	--	--	--	--	0.23	--	--	--	-11.06	
--	--	--	--	--	--	--	--	0.04	--	--	--	69.91	2982
--	--	--	--	--	--	--	--	0.03	--	--	--	101.92	
--	--	--	--	--	--	--	--	-0.01	--	--	--	32.01	
1.15	--	--	1.02	--	--	--	--	0.14	--	--	--	88.38	3349
1.15	--	--	0.36	--	--	--	--	0.18	--	--	--	79.10	
0.00	--	--	-0.66	--	--	--	--	0.04	--	--	--	-9.29	
0.12	--	1.23	--	--	--	--	--	0.07	--	--	--	146.75	4681
0.12	--	1.23	--	--	--	--	--	0.07	--	--	--	146.34	
0.00	--	0.00	--	--	--	--	--	0.00	--	--	--	-0.41	
0.04	--	--	0.37	--	--	--	--	0.06	--	--	--	161.45	4401
0.04	--	--	--	--	--	--	--	0.07	--	--	--	144.82	
0.00	--	--	-0.37	--	--	--	--	0.01	--	--	--	-16.63	
--	--	--	10.87	--	--	--	--	--	--	--	--	43.81	4120
--	--	--	0.90	--	--	--	--	--	0.08	--	--	22.00	
--	--	--	-9.96	--	--	--	--	--	0.08	--	--	-21.81	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Uttar Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Basti	2008-09	--	--	12.39	11.98	14.34	26.83	2.10	0.48	--	--	--
	2015-16		--	5.14	10.74	13.64	22.02	2.10	0.48	--	--	--
	Change	--	--	-7.25	-1.23	-0.70	-4.80	0.00	0.00	--	--	--
Bijnor	2008-09	--	--	1.18	0.73	--	0.58	--	--	--	--	1.25
	2015-16	--	--	0.96	0.56	0.14	0.37	--	--	--	--	1.15
	Change	--	--	-0.22	-0.16	0.14	-0.21	0.00	0.00	--	--	-0.10
Bulandshahr	2008-09	6.79	--	7.28	6.36	3.09	1.73	17.64	7.69	--	--	4.57
	2015-16	4.60	--	7.42	4.93	0.37	0.55	11.40	6.73	--	--	2.36
	Change	-2.20	--	0.14	-1.43	-2.73	-1.18	-6.24	-0.96	--	--	-2.21
Chandauli	2008-09	--	--	0.14	8.41	0.28	0.29	0.54	0.89	--	--	40.23
	2015-16	--	--	0.14	8.34	0.19	0.29	0.38	0.89	--	--	39.00
	Change	--	--	0.00	-0.07	-0.08	0.00	-0.15	0.00	--	--	-1.23
Chitrakoot	2008-09	6.51	--	19.58	86.56	--	--	0.49	--	--	--	31.67
	2015-16	6.51	--	18.47	84.19	--	--	0.49	--	--	--	31.67
	Change	0.00	--	-1.10	-2.37	0.00	0.00	0.00	--	--	--	0.00
Deoria	2008-09	--	--	14.32	4.83	5.05	3.24	0.01	--	--	--	--
	2015-16	--	--	12.40	5.66	5.05	3.65	0.01	--	--	--	--
	Change	--	--	-1.91	0.82	0.00	0.40	0.00	--	--	--	--
Etah	2008-09	--	--	2.09	4.49	2.50	6.67	82.82	18.31	--	--	4.48
	2015-16	--	--	2.31	3.52	2.46	5.05	52.04	15.63	--	--	4.48
	Change	--	--	0.22	-0.97	-0.04	-1.62	-30.78	-2.67	--	--	0.00
Etawah	2008-09	14.47	22.54	--	0.29	--	1.55	59.20	3.92	--	--	199.42
	2015-16	11.46	21.80	0.21	0.36	0.34	1.47	39.47	3.00	--	--	199.99
	Change	-3.01	-0.74	0.21	0.07	0.34	-0.08	-19.73	-0.91	--	--	0.57
Faizabad	2008-09	0.16	--	6.37	22.78	6.25	18.96	12.42	5.35	--	--	--
	2015-16	0.16	--	2.87	24.77	6.25	15.82	12.70	4.88	--	--	--
	Change	0.00	--	-3.50	1.99	0.00	-3.14	0.28	-0.47	--	--	--
Farrukhabad	2008-09	--	--	0.68	16.97	0.66	32.83	50.90	0.20	--	--	--
	2015-16	--	--	0.12	10.83	0.13	14.19	37.07	--	--	--	--
	Change	--	--	-0.57	-6.14	-0.53	-18.63	-13.83	-0.20	--	--	--
Fatehpur	2008-09	103.20	8.33	4.98	18.81	3.85	10.08	106.10	3.11	--	--	--
	2015-16	102.74	8.33	3.18	21.34	2.08	6.68	104.16	2.99	--	--	--
	Change	-0.46	0.00	-1.80	2.53	-1.76	-3.40	-1.94	-0.12	--	--	--
Firozabad	2008-09	31.55	56.93	4.93	13.34	0.30	1.98	38.18	10.00	--	--	39.17
	2015-16	23.01	53.15	5.60	10.02	0.06	1.23	29.98	8.16	--	--	39.22
	Change	-8.54	-3.78	0.67	-3.32	-0.24	-0.74	-8.20	-1.83	--	--	0.05
Gautam Buddha Nagar	2008-09	0.75	--	7.45	3.93	2.93	1.06	1.42	0.27	--	--	--
	2015-16	--	--	7.30	5.15	0.51	0.49	3.64	0.15	--	--	--
	Change	-0.75	--	-0.14	1.22	-2.42	-0.56	2.22	-0.12	--	--	--
Ghaziabad	2008-09	--	--	2.78	1.20	0.99	0.40	0.25	--	--	--	0.75
	2015-16	--	--	0.37	1.13	0.32	0.10	0.13	--	--	--	0.71
	Change	--	--	-2.41	-0.07	-0.67	-0.30	-0.12	--	--	--	-0.04

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

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|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	--	--	--	--	68.12	2688
--	--	--	--	--	--	--	--	0.03	--	--	--	54.17	
--	--	--	--	--	--	--	--	0.03	--	--	--	-13.95	
--	--	--	--	--	--	--	--	--	--	--	--	3.74	4561
--	--	--	0.32	--	--	--	--	--	--	--	--	3.51	
--	--	--	0.32	--	--	--	--	--	--	--	--	-0.23	
--	--	--	0.06	--	--	--	--	--	--	--	--	55.21	4352
0.06	--	--	0.06	--	--	--	--	--	--	--	--	38.47	
0.06	--	--	0.00	--	--	--	--	--	--	--	--	-16.74	
4.59	--	--	0.07	--	--	--	--	0.14	--	1.09	--	56.67	2632
5.82	--	--	0.07	--	--	--	--	0.14	--	1.09	--	56.36	
1.23	--	--	0.00	--	--	--	--	0.00	--	0.00	--	-0.31	
7.86	--	--	--	--	--	--	--	--	--	4.69	--	157.36	2943
7.86	--	--	--	--	--	--	--	0.08	--	4.69	--	153.96	
0.00	--	--	--	--	--	--	--	0.08	--	0.00	--	-3.40	
--	--	0.01	0.34	--	--	--	--	--	--	--	--	27.81	2574
--	--	0.01	0.26	--	--	--	--	--	--	--	--	27.05	
--	--	0.00	-0.08	--	--	--	--	--	--	--	--	-0.76	
--	--	--	--	--	--	--	--	--	--	--	--	121.35	2454
--	--	--	--	--	--	--	--	--	--	--	--	85.49	
--	--	--	--	--	--	--	--	--	--	--	--	-35.86	
--	--	--	0.66	--	--	--	--	--	--	--	--	302.05	2146
0.03	--	--	--	--	--	--	--	--	--	--	--	278.14	
0.03	--	--	-0.66	--	--	--	--	--	--	--	--	-23.90	
--	--	--	0.07	--	--	--	--	--	--	--	--	72.37	2201
--	--	--	0.07	--	--	--	--	--	--	--	--	67.52	
--	--	--	0.00	--	--	--	--	--	--	--	--	-4.85	
--	--	--	0.16	--	--	--	--	--	--	--	--	102.40	2177
--	--	--	--	--	--	--	--	--	--	--	--	62.34	
--	--	--	-0.16	--	--	--	--	--	--	--	--	-40.06	
--	--	--	--	--	--	--	--	0.16	--	--	--	258.62	4152
--	--	--	--	--	--	--	--	0.16	--	--	--	251.68	
--	--	--	--	--	--	--	--	0.00	--	--	--	-6.95	
--	--	--	0.66	--	--	--	--	--	--	--	--	197.03	2361
0.10	--	--	0.53	--	--	--	--	--	--	--	--	171.06	
0.10	--	--	-0.13	--	--	--	--	--	--	--	--	-25.97	
--	--	--	0.98	--	--	--	--	--	--	--	--	18.77	1442
--	--	--	0.22	--	--	--	--	--	--	--	--	17.46	
--	--	--	-0.76	--	--	--	--	--	--	--	--	-1.31	
--	--	--	--	--	--	--	--	--	--	--	--	6.36	1148
0.04	--	--	--	--	--	--	--	--	--	--	--	2.80	
0.04	--	--	--	--	--	--	--	--	--	--	--	-3.56	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Uttar Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Ghazipur	2008-09	--	--	0.00	9.86	7.32	3.94	28.45	1.63	--	--	--
	2015-16		--	0.01	9.99	7.25	2.64	27.90	1.59	--	--	--
	Change	--	--	0.01	0.13	-0.07	-1.31	-0.56	-0.05	--	--	--
Gonda	2008-09	--	--	13.87	27.36	16.59	7.26	3.22	0.06	--	--	10.39
	2015-16	--	--	5.85	25.93	16.65	4.59	3.22	0.06	--	--	10.39
	Change	--	--	-8.02	-1.43	0.06	-2.67	0.00	0.00	--	--	0.00
Gorakhpur	2008-09	0.09	--	5.81	15.65	9.64	22.74	2.26	0.47	--	--	--
	2015-16	0.09	--	3.41	15.57	9.31	22.21	2.36	0.30	--	--	--
	Change	0.00	--	-2.41	-0.08	-0.34	-0.53	0.10	-0.17	--	--	--
Hamirpur	2008-09	78.35	11.56	2.87	5.28	--	--	1.68	0.21	--	--	100.48
	2015-16	81.95	11.59	2.74	5.26	--	--	1.56	0.21	--	--	98.26
	Change	3.60	0.03	-0.14	-0.02	--	--	-0.12	0.00	--	--	-2.22
Hardoi	2008-09	1.98	--	1.86	46.67	4.70	28.63	127.07	27.71	--	--	0.13
	2015-16	1.64	--	1.42	27.68	3.92	10.72	91.96	22.17	--	--	0.13
	Change	-0.34	--	-0.44	-19.00	-0.77	-17.91	-35.11	-5.54	--	--	0.00
Hathras	2008-09	0.20	--	1.47	12.88	2.99	3.40	7.97	4.27	--	--	--
	2015-16	0.20	--	1.81	7.06	1.61	2.40	5.04	3.75	--	--	--
	Change	0.00	--	0.33	-5.82	-1.38	-1.00	-2.93	-0.52	--	--	--
Jalaun	2008-09	164.27	32.96	0.66	7.06	--	--	--	--	--	--	123.10
	2015-16	168.78	32.96	0.42	7.30	--	--	--	--	--	--	118.25
	Change	4.51	0.00	-0.24	0.24	--	--	--	--	--	--	-4.85
Jaunpur	2008-09	--	--	0.14	33.51	24.00	41.83	63.36	29.00	--	--	--
	2015-16	--	--	0.14	33.23	23.17	42.75	63.52	29.00	--	--	--
	Change	--	--	0.00	-0.28	-0.83	0.92	0.16	0.00	--	--	--
Jhansi	2008-09	100.31	3.90	28.74	217.37	--	0.06	1.71	--	--	--	76.03
	2015-16	100.31	3.90	25.67	193.05	--	0.06	1.71	--	--	--	76.03
	Change	0.00	0.00	-3.07	-24.32	--	0.00	0.00	--	--	--	0.00
Jyotiba Phule Nagar	2008-09	--	--	12.70	23.17	0.07	9.40	4.34	--	--	--	3.53
	2015-16	--	--	17.21	22.64	0.07	0.33	3.91	--	--	--	3.53
	CHANGE	--	--	4.51	-0.53	0.00	-9.06	-0.43	--	--	--	0.00
Kannauj	2008-09	--	--	0.47	13.28	6.91	7.04	112.02	10.00	--	--	--
	2015-16	--	--	0.95	13.00	0.95	4.52	74.31	8.11	--	--	--
	Change	--	--	0.49	-0.28	-5.97	-2.51	-37.72	-1.89	--	--	--
Kanpur	2008-09	0.18	--	1.47	6.92	--	1.00	36.88	2.93	--	--	--
	2015-16	--	--	2.26	9.89	--	0.24	18.54	2.89	--	--	--
	Change	-0.18	--	0.78	2.97	--	-0.76	-18.34	-0.04	--	--	--
Kanpur Dehat	2008-09	106.08	20.50	1.95	23.91	0.96	34.44	193.81	15.14	--	--	54.07
	2015-16	88.65	35.27	2.71	26.68	--	15.05	151.39	13.78	--	--	44.76
	Change	-17.43	14.76	0.76	2.76	-0.96	-19.39	-42.42	-1.36	--	--	-9.31
Kanshiram nagar	2008-09	--	--	24.23	6.17	25.80	4.23	20.02	0.22	--	--	1.37
	2015-16	--	--	12.40	4.32	17.32	0.73	17.57	0.09	--	--	1.37
	Change	--	--	-11.83	-1.84	-8.48	-3.50	-2.46	-0.13	--	--	0.00

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	0.34	0.33	--	--	51.89	3377
--	--	--	--	--	--	--	--	0.34	0.33	--	--	50.04	
--	--	--	--	--	--	--	--	0.00	0.00	--	--	-1.84	
5.54	--	--	0.62	--	--	--	--	0.31	--	--	--	85.22	4274
5.49	--	--	1.20	--	--	--	--	0.47	--	--	--	73.85	
-0.05	--	--	0.58	--	--	--	--	0.16	--	--	--	-11.37	
--	--	0.15	5.24	--	--	--	--	0.23	0.07	--	--	62.34	3324
--	--	0.15	1.49	--	--	--	--	0.23	0.07	--	--	55.17	
--	--	0.00	-3.75	--	--	--	--	0.00	0.00	--	--	-7.17	
1.67	--	--	0.84	--	--	--	--	0.04	--	0.07	--	203.05	4097
1.67	--	--	0.84	--	--	--	--	0.04	--	0.07	--	204.19	
0.00	--	--	0.00	--	--	--	--	0.00	--	0.00	--	1.14	
--	--	--	0.34	--	--	--	--	--	--	--	--	239.09	5986
--	--	--	0.21	--	--	--	--	--	--	--	--	159.85	
--	--	--	-0.14	--	--	--	--	--	--	--	--	-79.25	
--	--	--	--	--	--	--	--	--	--	--	--	33.19	1712
--	--	--	--	--	--	--	--	--	--	--	--	21.87	
--	--	--	--	--	--	--	--	--	--	--	--	-11.32	
1.61	--	--	--	--	--	--	--	--	--	--	--	329.65	4565
1.61	--	--	--	--	--	--	--	--	--	--	--	329.32	
0.00	--	--	--	--	--	--	--	--	--	--	--	-0.33	
--	--	--	--	--	--	--	--	0.36	0.33	--	--	192.52	4038
--	--	--	--	--	--	--	--	0.36	0.33	--	--	192.50	
--	--	--	--	--	--	--	--	0.00	0.00	--	--	-0.03	
1.57	--	--	--	--	--	--	--	9.59	0.52	32.61	--	472.41	5024
1.57	--	--	--	--	--	--	--	10.07	0.52	32.46	--	445.36	
0.00	--	--	--	--	--	--	--	0.48	0.00	-0.15	--	-27.05	
--	--	--	--	--	--	--	--	--	--	--	--	53.22	2454
--	--	--	--	--	--	--	--	--	--	--	--	47.70	
--	--	--	--	--	--	--	--	--	--	--	--	-5.52	
--	--	--	--	--	--	--	--	--	--	--	--	149.73	2097
--	--	--	--	--	--	--	--	--	0.07	--	--	101.91	
--	--	--	--	--	--	--	--	--	0.07	--	--	-47.82	
--	--	--	--	--	--	--	--	--	--	--	--	49.38	1065
--	--	--	--	--	--	--	--	--	3.41	--	--	37.22	
--	--	--	--	--	--	--	--	--	3.41	--	--	-12.16	
--	--	--	--	--	--	--	--	--	--	--	--	450.87	5111
--	--	--	--	--	--	--	--	--	0.39	--	--	378.68	
--	--	--	--	--	--	--	--	--	0.39	--	--	-72.19	
--	--	--	--	--	--	--	--	--	--	--	--	82.04	1992
--	--	--	0.09	--	--	--	--	--	--	--	--	53.88	
--	--	--	0.09	--	--	--	--	--	--	--	--	-28.15	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Uttar Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Kaushambi	2008-09	1.99	--	1.30	13.07	4.11	2.28	42.17	1.13	--	--	--
	2015-16	1.99	--	2.44	11.80	4.11	2.69	41.70	1.08	--	--	--
	Change	0.00	--	1.14	-1.26	0.00	0.41	-0.47	-0.05	--	--	--
Kushinagar	2008-09	--	--	1.21	0.16	4.85	1.14	--	--	--	--	0.14
	2015-16	--	--	1.18	0.14	4.85	1.14	--	--	--	--	0.14
	Change	--	--	-0.03	-0.03	0.00	0.00	--	--	--	--	0.00
Lakhimpur Kheri	2008-09	--	--	69.84	30.09	31.71	14.06	9.21	1.74	--	--	134.11
	2015-16	--	--	56.81	25.35	20.18	4.97	5.98	1.27	--	--	128.85
	Change	--	--	-13.04	-4.75	-11.53	-9.09	-3.23	-0.47	--	--	-5.26
Lalitpur	2008-09	--	--	31.77	180.35	--	0.08	--	--	--	--	77.56
	2015-16	--	--	10.39	160.51	--	0.08	--	--	--	--	80.99
	Change	--	--	-21.38	-19.84	--	0.00	--	--	--	--	3.42
Lucknow	2008-09	0.02	0.05	8.62	16.09	0.28	5.48	56.66	25.07	--	--	0.96
	2015-16	--	0.05	8.36	20.11	0.28	5.41	45.18	23.33	--	--	0.96
	Change	-0.02	0.00	-0.26	4.02	0.00	-0.07	-11.48	-1.74	--	--	0.00
Maharajganj	2008-09	--	--	0.95	0.11	2.81	5.53	--	--	--	--	5.50
	2015-16	--	--	0.95	0.22	2.81	5.53	--	--	--	--	7.20
	Change	--	--	0.00	0.11	0.00	0.00	--	--	--	--	1.70
Mahoba	2008-09	14.13	--	38.24	49.70	0.26	--	0.07	--	--	--	19.65
	2015-16	13.94	--	26.58	59.07	0.26	--	0.44	--	--	--	19.65
	Change	-0.19	--	-11.66	9.36	0.00	--	0.37	--	--	--	0.00
Mainpuri	2008-09	--	--	1.09	13.25	0.28	21.21	109.14	13.06	--	--	--
	2015-16	--	--	1.23	10.33	4.08	11.31	85.07	11.85	--	--	--
	Change	--	--	0.14	-2.92	3.80	-9.91	-24.07	-1.20	--	--	--
Mathura	2008-09	2.83	--	7.39	20.44	1.89	17.28	5.30	0.50	--	--	0.69
	2015-16	0.76	--	7.05	16.37	1.89	12.70	4.96	0.42	--	--	0.69
	Change	-2.07	--	-0.34	-4.07	0.00	-4.58	-0.34	-0.09	--	--	0.00
Mau	2008-09	--	--	3.57	9.20	21.26	8.66	8.31	5.19	--	--	0.08
	2015-16	--	--	0.63	8.73	19.49	9.38	8.97	4.05	--	--	0.08
	Change	--	--	-2.94	-0.47	-1.77	0.72	0.66	-1.14	--	--	0.00
Meerut	2008-09	--	--	4.14	4.61	3.59	11.54	--	--	--	--	0.60
	2015-16	--	--	0.36	4.70	3.59	11.04	--	--	--	--	0.60
	Change	--	--	-3.78	0.09	0.00	-0.50	--	--	--	--	0.00
Mirzapur	2008-09	0.00	--	1.66	61.75	--	0.18	0.34	0.20	--	--	144.49
	2015-16	0.00	--	1.91	58.58	--	0.18	0.34	0.20	--	--	137.78
	Change	0.00	--	0.26	-3.17	--	0.00	0.00	0.00	--	--	-6.71
Moradabad	2008-09	--	--	1.11	4.00	--	--	--	--	--	--	--
	2015-16	--	--	3.44	1.01	--	--	--	--	--	--	--
	Change	--	--	2.33	-2.99	--	--	--	--	--	--	--
Muzaffarnagar	2008-09	--	--	5.72	0.71	--	--	--	--	--	--	17.27
	2015-16	--	--	3.37	0.42	--	--	--	--	--	--	17.13
	Change	--	--	-2.35	-0.29	--	--	--	--	--	--	-0.14

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	0.50	--	--	--	66.56	2109
--	--	--	--	--	--	--	--	0.81	--	--	--	66.63	
--	--	--	--	--	--	--	--	0.31	--	--	--	0.08	
--	--	--	--	--	--	--	--	0.03	0.07	--	--	7.61	2871
--	--	--	--	--	--	--	--	--	0.07	--	--	7.52	
--	--	--	--	--	--	--	--	-0.03	0.00	--	--	-0.09	
9.42	--	--	6.69	--	--	--	--	--	--	--	--	306.89	7680
2.26	--	--	1.65	--	--	--	--	--	0.82	--	--	248.14	
-7.17	--	--	-5.04	--	--	--	--	--	0.82	--	--	-58.75	
3.60	--	--	--	--	--	--	--	1.66	1.28	67.73	--	364.05	5039
3.60	--	--	--	--	--	--	--	1.85	2.23	67.73	--	327.39	
0.00	--	--	--	--	--	--	--	0.18	0.95	0.00	--	-36.65	
--	--	5.75	0.02	--	--	--	--	--	--	--	--	119.00	2528
--	--	4.65	--	--	--	--	--	--	0.37	--	--	108.69	
--	--	-1.10	-0.02	--	--	--	--	--	0.37	--	--	-10.31	
12.26	--	--	--	--	--	--	--	--	--	--	--	27.16	2948
12.28	--	--	--	--	--	--	--	--	--	--	--	28.99	
0.02	--	--	--	--	--	--	--	--	--	--	--	1.83	
0.69	--	--	--	--	--	--	--	2.07	--	13.28	--	138.08	3068
0.69	--	--	--	--	--	--	--	3.60	--	13.28	--	137.51	
0.00	--	--	--	--	--	--	--	1.53	--	0.00	--	-0.58	
--	--	--	--	--	--	--	--	--	--	--	--	158.03	2760
--	--	--	--	--	--	--	--	--	--	--	--	123.87	
--	--	--	--	--	--	--	--	--	--	--	--	-34.16	
--	--	--	--	--	--	--	--	--	--	1.22	--	57.54	3311
--	--	--	--	--	--	--	--	--	--	1.22	--	46.09	
--	--	--	--	--	--	--	--	--	--	0.00	--	-11.45	
--	--	--	--	--	--	--	--	0.27	--	--	--	56.54	1713
--	--	--	--	--	--	--	--	0.23	0.04	--	--	51.62	
--	--	--	--	--	--	--	--	-0.04	0.04	--	--	-4.93	
--	--	--	--	--	--	--	--	--	--	--	--	24.47	2667
--	--	--	--	--	--	--	--	--	--	--	--	20.29	
--	--	--	--	--	--	--	--	0.00	0.00	--	--	-4.18	
70.78	--	--	--	--	--	--	--	3.42	0.00	18.90	--	301.72	4522
76.29	--	--	--	--	--	--	--	3.42	0.00	18.90	--	297.61	
5.51	--	--	--	--	--	--	--	0.00	0.00	0.00	--	-4.11	
--	--	--	--	--	--	--	--	--	--	--	--	5.12	3513
--	--	--	--	--	--	--	--	--	--	--	--	4.45	
--	--	--	--	--	--	--	--	--	--	--	--	-0.66	
0.50	--	--	--	--	--	--	--	--	--	--	--	24.20	4009
0.64	--	--	--	--	--	--	--	--	--	--	--	21.56	
0.14	--	--	--	--	--	--	--	--	--	--	--	-2.64	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Uttar Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Pilibhit	2008-09	--	--	67.82	31.15	2.29	3.12	--	--	--	--	43.25
	2015-16	--	--	48.25	20.33	2.16	3.00	--	--	--	--	42.89
	Change	--	--	-19.58	-10.83	-0.13	-0.12	--	--	--	--	-0.36
Pratapgarh	2008-09	3.09	--	7.12	53.79	20.24	15.23	95.94	62.21	--	--	--
	2015-16	1.59	--	8.81	53.49	21.38	15.60	97.31	60.16	--	--	--
	Change	-1.49	--	1.69	-0.30	1.14	0.37	1.36	-2.06	--	--	--
Rae Bareli	2008-09	1.42	--	17.11	26.21	15.43	18.01	169.90	38.81	--	--	--
	2015-16	1.23	--	10.03	33.53	11.39	12.04	166.00	39.47	--	--	--
	Change	-0.19	--	-7.09	7.33	-4.04	-5.97	-3.90	0.67	--	--	--
Rampur	2008-09	--	--	2.32	2.10	0.04	--	0.19	--	--	--	1.57
	2015-16	--	--	1.23	1.23	--	--	0.10	--	--	--	1.57
	Change	--	--	-1.09	-0.86	-0.04	--	-0.08	--	--	--	0.00
Saharanpur	2008-09	--	--	1.22	0.55	--	--	--	--	--	--	1.13
	2015-16	--	--	0.70	0.63	--	--	--	--	--	--	1.13
	Change	--	--	-0.52	0.08	--	--	--	--	--	--	--
Sant Kabir Nagar	2008-09	0.11	--	--	4.42	0.28	5.94	0.01	--	--	--	--
	2015-16	0.11	--	0.14	4.45	0.28	3.73	0.01	--	--	--	--
	Change	0.00	--	0.14	0.02	0.00	-2.21	0.00	--	--	--	--
Sant Ravi Das Nagar	2008-09	--	--	0.07	3.96	0.65	2.41	10.54	7.65	--	--	--
	2015-16	--	--	0.07	3.81	0.22	2.87	11.31	6.81	--	--	--
	Change	--	--	0.00	-0.15	-0.43	0.46	0.77	-0.84	--	--	--
Shahjahanpur	2008-09	--	--	17.53	33.92	7.18	4.34	17.70	1.04	--	--	4.32
	2015-16	--	--	2.93	14.69	0.52	2.00	11.54	0.73	--	--	3.72
	Change	--	--	-14.61	-19.23	-6.66	-2.34	-6.16	-0.30	--	--	-0.60
Shravasti	2008-09	--	--	6.07	13.00	3.38	4.57	0.56	--	--	--	12.95
	2015-16	--	--	1.72	5.13	3.48	3.83	0.62	--	--	--	11.96
	Change	--	--	-4.35	-7.87	0.10	-0.75	0.07	0.00	--	--	-0.99
Siddharth Nagar	2008-09	--	--	1.22	7.99	16.14	32.41	1.63	--	--	--	1.09
	2015-16	--	--	1.38	8.34	16.14	28.78	1.81	--	--	--	1.06
	Change	--	--	0.16	0.35	0.00	-3.63	0.18	--	--	--	-0.03
Sitapur	2008-09	1.62	--	6.89	42.72	16.07	13.06	35.58	4.19	--	--	20.98
	2015-16	0.63	--	4.75	34.58	3.54	1.26	26.96	3.01	--	--	19.59
	Change	-0.98	--	-2.14	-8.14	-12.52	-11.80	-8.62	-1.18	--	--	-1.39
Sonbhadra	2008-09	3.02	0.22	2.35	59.83	0.37	--	--	--	--	--	120.68
	2015-16	3.02	0.22	1.71	47.60	0.37	--	--	--	--	--	108.83
	Change	0.00	0.00	-0.64	-12.23	0.00	--	--	--	--	--	-11.84
Sultanpur	2008-09	0.00	--	11.73	57.85	--	13.60	96.84	39.77	--	--	--
	2015-16	0.00	--	11.43	57.66	--	9.17	108.40	28.72	--	--	--
	Change	0.00	--	-0.30	-0.20	--	-4.43	11.56	-11.04	--	--	--
Unnao	2008-09	--	--	13.74	13.12	--	17.54	156.02	53.84	--	--	--
	2015-16	--	--	7.67	18.28	--	9.62	114.68	46.21	--	--	--
	Change	--	--	-6.07	5.16	--	-7.91	-41.34	-7.63	--	--	--

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
2.48	--	--	2.46	--	--	--	--	--	--	--	--	152.57	3499
0.49	--	--	0.43	--	--	--	--	--	--	--	--	117.53	
-2.00	--	--	-2.03	--	--	--	--	--	--	--	--	-35.04	
--	--	--	--	--	--	--	--	--	0.12	--	--	257.74	3717
--	--	--	--	--	--	--	--	--	0.12	--	--	258.46	
--	--	--	--	--	--	--	--	--	0.00	--	--	0.72	
--	--	--	--	--	--	--	--	--	0.72	--	--	287.60	4609
--	--	--	--	--	--	--	--	--	0.72	--	--	274.41	
--	--	--	--	--	--	--	--	--	0.00	--	--	-13.19	
--	--	--	0.73	--	--	--	--	--	--	--	--	6.96	2367
--	--	--	0.16	--	--	--	--	--	--	--	--	4.30	
--	--	--	-0.57	--	--	--	--	--	--	--	--	-2.65	
--	--	--	0.01	--	--	--	--	--	--	0.01	--	2.91	3689
--	--	--	--	--	--	--	--	--	--	0.01	--	2.46	
--	--	--	-0.01	--	--	--	--	--	--	0.00	--	-0.45	
--	--	--	--	--	--	--	--	--	--	--	--	10.77	1646
--	--	--	--	--	--	--	--	--	--	--	--	8.72	
--	--	--	--	--	--	--	--	--	--	--	--	-2.05	
--	--	--	--	--	--	--	--	0.56	0.02	--	--	25.87	1080
--	--	--	--	--	--	--	--	0.44	0.02	--	--	25.56	
--	--	--	--	--	--	--	--	-0.12	0.00	--	--	-0.31	
0.52	--	--	6.69	--	--	--	--	--	--	--	--	93.24	4575
0.52	--	--	0.35	--	--	--	--	--	1.21	--	--	38.21	
0.00	--	--	-6.34	--	--	--	--	--	1.21	--	--	-55.03	
0.08	0.13	--	--	--	--	--	--	0.27	0.05	--	--	41.07	2458
0.40	0.13	--	0.09	--	--	--	--	0.40	0.05	--	--	27.81	
0.32	--	--	0.09	--	--	--	--	0.13	0.00	--	--	-13.26	
0.14	--	--	0.37	--	--	--	--	--	--	--	--	60.99	2944
0.14	--	--	--	--	--	--	--	0.01	--	--	--	57.66	
0.00	--	--	-0.37	--	--	--	--	0.01	--	--	--	-3.33	
3.12	--	--	--	--	--	--	--	--	--	--	--	144.21	5743
4.51	--	--	--	--	--	--	--	--	0.60	--	--	99.42	
1.39	--	--	--	--	--	--	--	--	0.60	--	--	-44.79	
69.32	--	2.55	--	--	--	--	--	20.16	4.94	41.33	--	324.77	6788
70.84	--	2.55	--	--	--	--	--	20.17	4.94	41.33	--	301.59	
1.52	--	0.00	--	--	--	--	--	0.01	0.00	0.00	--	-23.18	
--	--	--	0.10	--	--	--	--	0.07	0.07	--	--	220.03	4436
--	--	--	--	--	--	--	--	0.07	0.07	--	--	215.52	
--	--	--	0.10	--	--	--	--	0.00	0.00	--	--	-4.51	
--	--	--	--	--	--	--	--	--	--	--	--	254.27	4558
--	--	--	--	--	--	--	--	--	2.96	--	--	199.42	
--	--	--	--	--	--	--	--	--	2.96	--	--	-54.84	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Uttar Pradesh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11	12	13
Varanasi	2008-09	0.16	--	--	6.18	2.62	2.07	5.58	2.59	--	--	--	--	--
	2015-16	0.16	--	--	6.12	2.62	2.02	6.39	2.12	--	--	--	--	--
	Change	0.00	--	--	-0.07	0.00	-0.05	0.82	-0.47	--	--	--	--	--
Grand Total	2008-09	843.60	260.90	660.32	1786.23	398.31	607.22	2031.32	489.34	--	--	1993.06	219.53	0.59
	2015-16	804.51	260.99	470.12	1625.22	323.20	427.69	1702.55	427.06	--	--	1958.46	222.90	0.59
	Change	-39.09	0.08	-190.19	-161.01	-75.11	-179.54	-328.78	-62.28	--	--	-34.60	3.37	0.00

Uttar Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

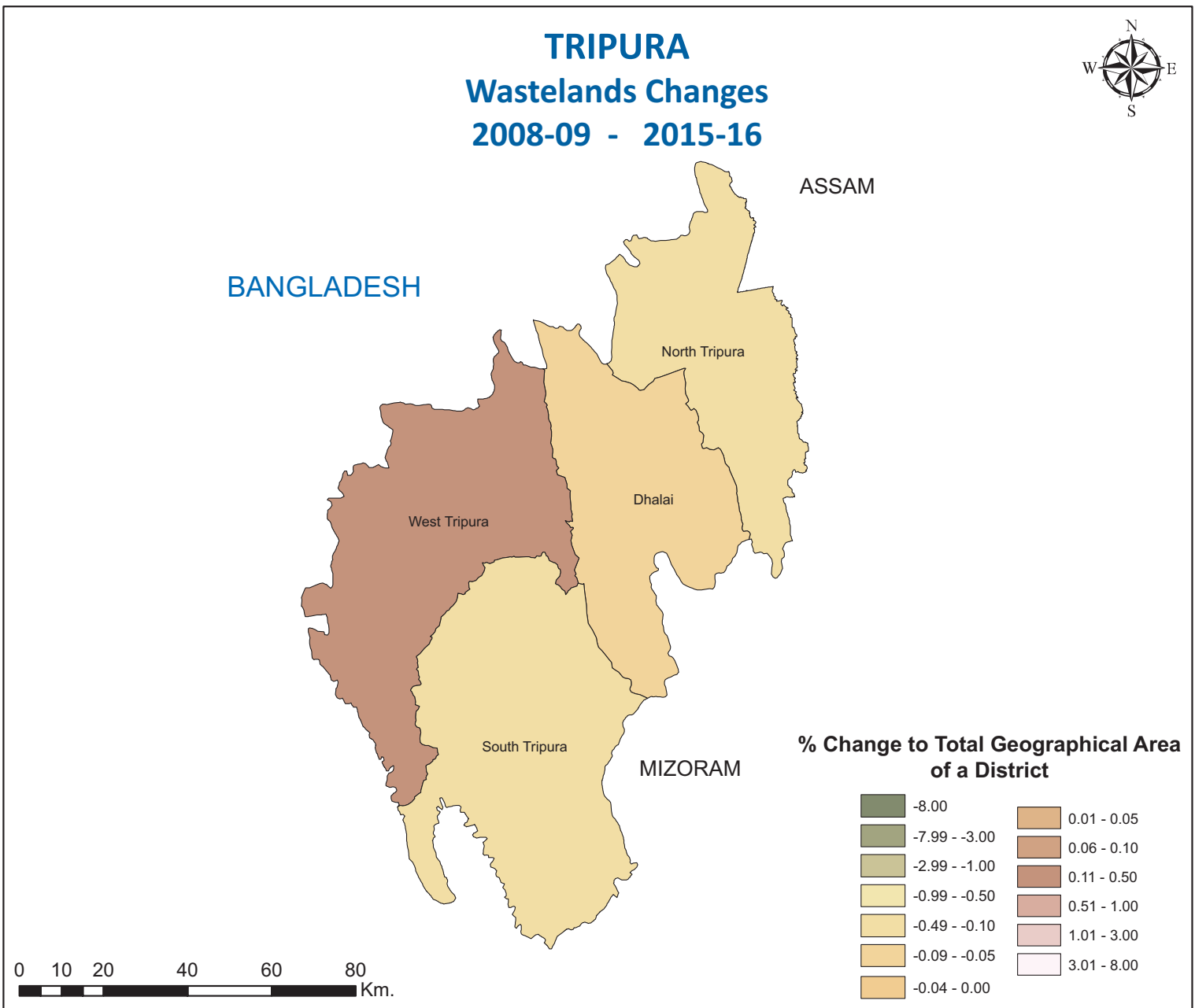
Area in sq.km

District	WL_Class	14	15	16	17	18	19	20	21	22	23	Total	TGA
Varanasi	2008-09	--	--	--	--	--	--	0.03	0.17	--	--	19.40	1381
	2015-16	--	--	--	--	--	--	0.04	0.17	--	--	19.64	
	Change	--	--	--	--	--	--	0.01	0.00	--	--	0.24	
Grand Total	2008-09	9.68	41.85	--	--	--	--	45.54	11.72	220.15	--	9619.35	240928
	2015-16	8.58	13.19	--	--	--	--	50.52	22.86	218.62	--	8537.06	
	Change	-1.10	-28.65	--	--	--	--	4.98	11.14	-1.53	--	-1082.29	

Note: "--" Denotes this Class is not existing in the District / State
TGA - Total Geographical Area

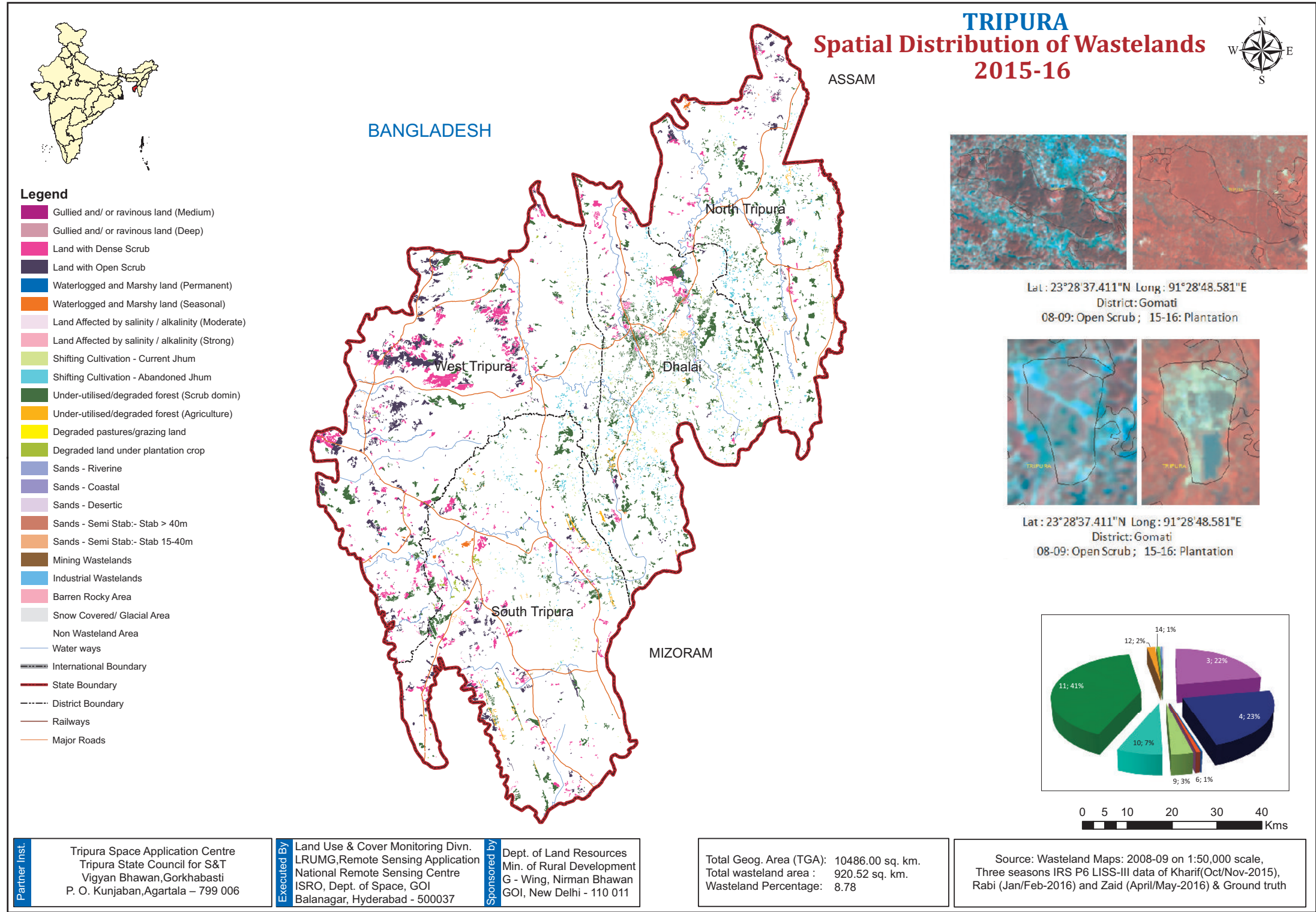
2008-09 Wastelands statistics are revised version.

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Net decrease of wastelands area by 10.75 sq. km. is observed during this period.
- An area of 6.49 sq. km. of wastelands is converted into built up area followed by an area of 6.02 sq. km. converted into forest plantation.
- Tripura (West) district has witnessed decrease in wastelands area by 8.55 sq. km. and in Dhalai district by 2.72 sq. km.
- Tripura South district has observed increase in wastelands area by 3.15 sq. km.



TRIPURA

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16												WL 2008-09 becoming non WL in 2015-16										2008-09	
	1	3	4	5	6	9	10	11	12	14	15	21	24	25	26	27	28	29	30	31	32	Category Total	Grand Total	
1	0.48																					0.48	931.27	
2		176.15	7.07										0.43	0.05	0.38	0.03	0.99	1.95	0.87	0.04		187.95		
3		27.99	203.82										5.81		0.48		1.99	0.58	0.76			241.43		
4				1.82	0.04																	1.86		
5					6.09																	6.09		
6						28.19	1.70	0.23										0.07	0.12			30.31		
7						0.23	62.01	2.30									0.04	0.23	0.36			65.17		
8					0.02	0.47		365.50	0.30			0.04	0.25		0.21		0.68	1.26	3.91	0.13		372.77		
11									15.76									0.08				15.84		
12										5.47								0.02				5.48		
13											3.59											3.59		
14												0.31										0.31		
999		0.66	3.62		0.03	1.74	0.50	3.52	0.05	0.68	0.09	0.07												
Category Total (2015-16)	0.48	204.80	214.51	1.82	6.18	30.62	64.20	371.56	16.11	6.15	3.68	0.42	6.49	0.05	1.07	0.03	3.70	4.21	6.02	0.04	0.13			
Grand Total (2015-16)	920.52																							

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1				
3	4.73	45	0.66	6
4	9.62	41	3.62	37
5				
6			0.03	2
9	0.19	4	1.74	35
10	0.64	14	0.50	14
11	6.44	36	3.52	36
12	0.08	1	0.05	3
14	0.02	1	0.68	8
15			0.09	5
21			0.07	2
Total	21.71	142	10.96	148

Wastelands becoming Non-wastelands (-) 21.71
 Non-wastelands becoming Wastelands (+) 10.96
 NET Change (2015 - 16) - (2008 - 09) (-) 10.75

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes		Non-Wasteland Classes	
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Tripura

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Dhalai	2008-09	0.34	--	26.50	12.90	0.27	0.53	--	--	15.07	37.01	153.50
	2015-16	0.34	--	25.46	12.40	0.22	0.59	--	--	15.07	36.04	152.92
	Change	0.00	--	-1.04	-0.49	-0.04	0.06	--	--	0.00	-0.97	-0.58
Gomati	2008-09	0.13	--	19.95	13.35	0.62	2.54	--	--	3.60	10.03	48.79
	2015-16	0.13	--	22.87	10.11	0.62	2.54	--	--	3.39	9.47	50.14
	Change	0.00	--	2.92	-3.24	0.00	0.00	--	--	-0.22	-0.56	1.35
Khowai	2008-09	--	--	30.92	20.67	0.08	0.36	--	--	3.08	5.25	19.18
	2015-16	--	--	30.51	19.53	0.08	0.36	--	--	3.14	5.39	18.83
	Change	--	--	-0.42	-1.13	0.00	0.00	--	--	0.06	0.14	-0.35
North	2008-09	--	--	10.88	18.72	0.05	0.17	--	--	6.34	9.52	51.92
	2015-16	--	--	11.05	17.53	0.05	0.19	--	--	6.46	9.71	52.38
	Change	--	--	0.17	-1.19	0.00	0.02	--	--	0.12	0.19	0.46
Sepahijala	2008-09	--	--	30.73	36.47	0.55	0.35	--	--	--	0.26	26.10
	2015-16	--	--	30.82	36.08	0.55	0.36	--	--	0.07	0.26	26.02
	Change	--	--	0.09	-0.40	0.00	0.02	--	--	0.07	0.00	-0.09
South	2008-09	--	--	29.27	34.90	0.13	0.02	--	--	1.69	0.62	32.43
	2015-16	--	--	28.76	36.15	0.13	0.02	--	--	1.99	0.84	34.06
	Change	--	--	-0.51	1.25	0.00	0.00	--	--	0.30	0.22	1.63
Unakoti	2008-09	--	--	6.57	8.72	0.13	1.85	--	--	0.07	1.70	21.37
	2015-16	--	--	7.15	6.88	0.13	1.85	--	--	0.07	1.74	21.39
	Change	--	--	0.58	-1.84	0.00	0.00	--	--	0.00	0.04	0.03
West	2008-09	--	--	33.11	95.70	0.04	0.28	--	--	0.45	0.79	19.48
	2015-16	--	--	48.16	75.82	0.04	0.28	--	--	0.43	0.76	15.82
	Change	--	--	15.05	-19.88	0.00	0.00	--	--	-0.02	-0.03	-3.66
Grand Total	2008-09	0.48	--	187.95	241.43	1.86	6.09	--	--	30.31	65.17	372.77
	2015-16	0.48	--	204.80	214.51	1.82	6.18	--	--	30.62	64.20	371.56
	Change	0.00	--	16.85	-26.92	-0.04	0.09	--	--	0.31	-0.97	-1.21

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

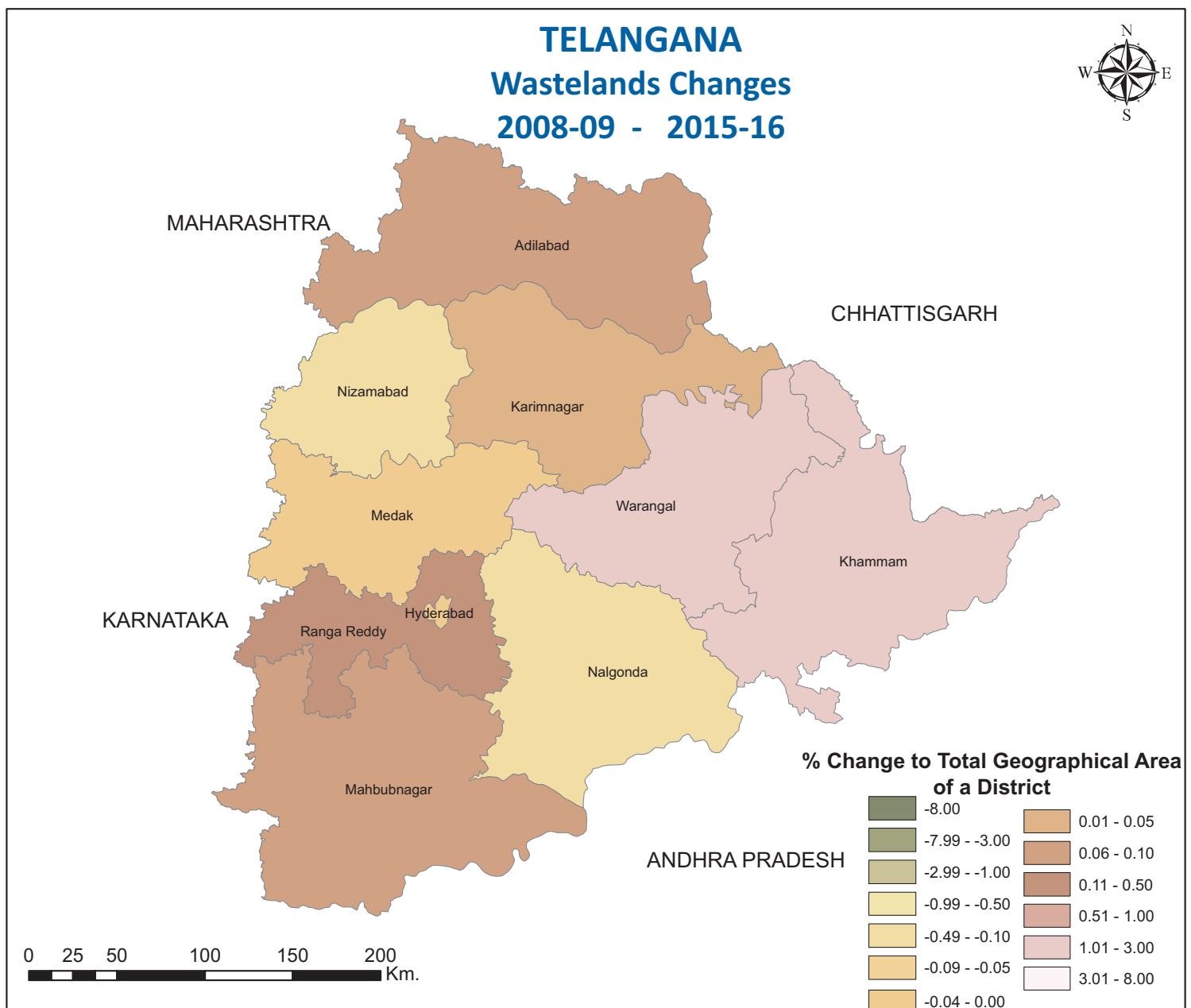
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|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
3.39	--	0.06	1.03	--	--	--	--	--	--	--	--	250.59	2314
3.51	--	0.20	1.07	--	--	--	--	--	0.04	--	--	247.88	
0.12	--	0.13	0.04	--	--	--	--	--	0.04	--	--	-2.72	
5.16	--	4.58	--	--	--	--	--	--	0.13	--	--	108.88	1616
5.37	--	4.60	0.04	--	--	--	--	--	0.16	--	--	109.44	
0.21	--	0.03	0.04	--	--	--	--	--	0.03	--	--	0.56	
0.39	--	--	0.69	--	--	--	--	--	--	--	--	80.62	1013
0.39	--	0.20	0.70	--	--	--	--	--	--	--	--	79.13	
0.00	--	0.20	0.02	--	--	--	--	--	--	--	--	-1.49	
1.46	--	0.25	0.04	--	--	--	--	--	--	--	--	99.35	1357
1.38	--	0.29	0.04	--	--	--	--	--	0.03	--	--	99.12	
-0.08	--	0.05	0.00	--	--	--	--	--	0.03	--	--	-0.24	
0.02	--	0.41	0.39	--	--	--	--	--	0.04	--	--	95.31	1043
0.02	--	0.41	0.39	--	--	--	--	--	0.04	--	--	95.00	
0.00	--	0.00	0.00	--	--	--	--	--	0.00	--	--	-0.30	
5.35	--	--	0.19	--	--	--	--	--	0.15	--	--	104.74	1511
5.35	--	0.26	0.19	--	--	--	--	--	0.15	--	--	107.89	
0.00	--	0.26	0.00	--	--	--	--	--	0.00	--	--	3.15	
--	--	--	1.18	--	--	--	--	--	--	--	--	41.58	656
0.02	--	--	1.18	--	--	--	--	--	--	--	--	40.41	
0.02	--	--	0.00	--	--	--	--	--	--	--	--	-1.17	
0.07	--	0.19	0.08	--	--	--	--	--	--	--	--	150.20	976
0.07	--	0.19	0.08	--	--	--	--	--	--	--	--	141.65	
0.00	--	0.00	0.00	--	--	--	--	--	--	--	--	-8.55	
15.84	--	5.48	3.59	--	--	--	--	--	0.31	--	--	931.27	10486
16.11	--	6.15	3.68	--	--	--	--	--	0.42	--	--	920.52	
0.27	--	0.66	0.09	--	--	--	--	--	0.11	--	--	-10.75	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Increase of wastelands area by 377.79 sq. km.
- An area of 98.75 sq.km. wastelands is converted to crop/fallow land and maximum contribution from **land with dense and open scrub.**
- A net decrease in wastelands area by 32.28 sq. km. & 15.06 sq. km. in Nizamabad & Nalgonda districts respectively.
- A net increase is observed in Wastelands area by 255.85 sq. Km in Khammam district followed by 129.10 sq. km. in Warangal district .

TELANGANA Spatial Distribution of Wastelands 2015-16



MAHARASHTRA

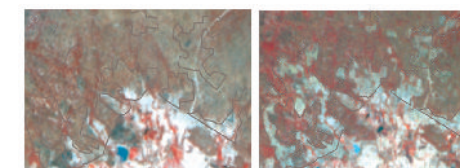
CHHATTISGARH

KARNATAKA

ANDHRA PRADESH

Legend

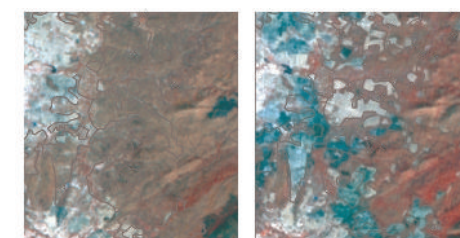
- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- International Boundary
- State Boundary
- District Boundary
- Railways
- Major Roads



Lat :18°4'11.838"N Long :80°34'47.97"E

District : Khammam

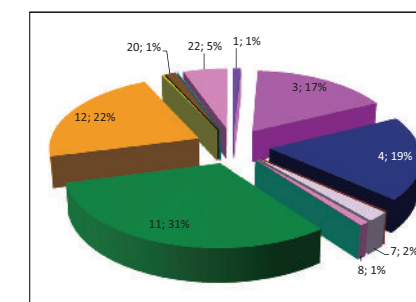
08-09 : Non-WL ; 15-16 : Degraded forest(Agriculture)



Lat :17°57'45.933"N Long 80°13'37.734"E

District : Warangal

08-09 : Non-WL; 15-16 : Degraded forest(Agriculture)



0 20 40 80 120 160 Kms

Partner Inst.
Telangana Remote Sensing Applns. Centre
(Planning Dept., Govt. of Telanagana)
Directorate of Economics & Statistics Campus
Khairatabad, Hyderabad-500 004

Executed By
Land Use & Cover Monitoring Divn.
LRUMG,Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by
Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011

Total Geog. Area (TGA): 112079.00 sq. km.
Total wasteland area : 14241.21 sq. km.
Wasteland Percentage: 12.71

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif(Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

TELANGANA Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16																		WL 2008-09 becoming non WL in 2015-16								2008-09	
	1	2	3	4	5	6	7	8	11	12	13	14	15	19	20	21	22	24	25	26	27	28	30	32	Category Total	Grand Total		
1	127.61			0.19																	0.03			0.26	128.10	13863.42		
2		0.04																							0.04			
3			2380.41	28.91		0.07	0.24		0.54	0.27					4.62	0.23		7.08	0.59	20.23	18.24	0.34		0.11	2461.88			
4			13.58	2628.57			1.61								4.21	0.09		4.85	1.45	22.15	34.62	0.28		1.22	2712.63			
5					0.38																				0.38			
6						1.13																			1.13			
7				1.27	0.76	0.79	296.82	0.91										0.63		1.53	1.21				303.92			
8				0.16		0.15	0.17	126.55												0.56	0.06				127.63			
11									4422.43	0.18					0.33	0.29			0.70				0.34	0.11	4424.39			
12										2742.65															2742.65			
13				0.03							27.47							2.43		0.12					30.07			
14												2.35													2.35			
15													3.14												3.14			
19														0.35											0.35			
20															146.59										146.59			
21				0.17												7.98									8.14			
22															1.69		768.34								770.03			
999	0.40		5.64	23.49	0.02		5.45	3.25	29.71	390.58	0.09		0.35		36.67	1.29												
Category Total (2015-16)	128.01	0.04	2399.63	2682.79	1.16	2.14	304.29	130.70	4452.67	3133.68	27.56	2.35	3.49	0.35	194.12	9.88	768.34	14.99	2.74	44.59	54.16	0.62	0.34	1.70				
Grand Total (2015-16)	14241.21																											

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	0.30	2	0.40	1
2				
3	46.60	403	5.64	39
4	64.56	587	23.49	128
5			0.02	1
6				
7	3.37	32	5.45	20
8	0.61	6	3.25	10
11	1.15	4	29.71	63
12			390.58	818
13	2.56	10	0.09	2
14				
15			0.35	1
19				
20			36.67	148
21			1.29	5
22				
Total	119.15	1044	496.94	1236

Wastelands becoming Non-wastelands (-) 119.15
Non-wastelands becoming Wastelands (+) 496.94
NET Change (2015 - 16) - (2008 - 09) (+) 377.79

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
2008 - 09 Wastelands statistics are revised version.
Area under category total is rounded to nearest decimal.

Wasteland Classes				Non-Wasteland Classes			
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic		24. Built-up			
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m		25. Industrial Area			
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m		26. Cropland			
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands		27. Fallow Land			
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands		28. Plantation			
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste		29. Forest-Dense/Open			
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area		30. Forest Plantation			
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area		31. Grasslands			
				32. Waterbodies			

Telangana

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Adilabad	2008-09	68.23	--	212.84	188.71	--	--	9.51	2.77	--	--	882.59
	2015-16	67.74	--	203.26	187.51	--	--	12.00	2.77	--	--	883.35
	Change	-0.48	--	-9.59	-1.20	--	--	2.49	0.00	--	--	0.76
Hyderabad	2008-09	--	--	3.34	1.38	--	--	--	--	--	--	--
	2015-16	--	--	3.34	1.38	--	--	--	--	--	--	--
	Change	--	--	0.00	0.00	--	--	--	--	--	--	--
Karimnagar	2008-09	3.37	--	282.82	417.56	--	--	0.03	--	--	--	377.73
	2015-16	3.37	--	280.56	412.52	--	--	0.03	--	--	--	377.68
	Change	0.00	--	-2.27	-5.04	--	--	0.00	--	--	--	-0.05
Khammam	2008-09	39.82	--	81.15	30.06	--	--	5.94	0.48	--	--	208.57
	2015-16	40.22	--	77.05	31.55	--	--	5.89	0.48	--	--	227.24
	Change	0.40	--	-4.09	1.49	--	--	-0.05	0.00	--	--	18.67
Mahbubnagar	2008-09	1.62	--	343.52	414.26	0.38	0.37	197.83	70.20	--	--	891.53
	2015-16	1.62	--	342.58	419.49	1.16	1.38	196.94	73.07	--	--	892.79
	Change	0.00	--	-0.94	5.23	0.78	1.01	-0.89	2.87	--	--	1.26
Medak	2008-09	2.07	--	416.37	483.97	--	--	--	--	--	--	314.78
	2015-16	2.07	--	412.74	481.88	--	--	--	--	--	--	314.72
	Change	0.00	--	-3.63	-2.09	--	--	--	--	--	--	-0.06
Nalgonda	2008-09	1.19	0.04	402.52	299.53	--	0.76	67.53	53.02	--	--	572.24
	2015-16	1.19	0.04	387.81	298.80	--	0.76	67.52	53.22	--	--	571.61
	Change	0.00	0.00	-14.70	-0.73	--	0.00	-0.01	0.20	--	--	-0.64
Nizamabad	2008-09	9.83	--	244.96	355.47	--	--	0.68	--	--	--	521.94
	2015-16	9.83	--	234.19	333.68	--	--	0.68	--	--	--	521.94
	Change	0.00	--	-10.78	-21.78	--	--	0.00	--	--	--	0.00
Rangareddi	2008-09	0.28	--	304.96	199.97	--	--	2.84	0.25	--	--	267.32
	2015-16	0.28	--	292.89	209.72	--	--	2.84	0.25	--	--	274.70
	Change	0.00	--	-12.07	9.75	--	--	0.00	0.00	--	--	7.38
Warangal	2008-09	1.68	--	169.39	321.72	--	--	19.56	0.92	--	--	387.69
	2015-16	1.68	--	165.20	306.25	--	--	18.39	0.92	--	--	388.65
	Change	0.00	--	-4.19	-15.46	--	--	-1.18	0.00	--	--	0.96
Grand Total	2008-09	128.10	0.04	2461.88	2712.63	0.38	1.13	303.92	127.63	--	--	4424.39
	2015-16	128.01	0.04	2399.63	2682.79	1.16	2.14	304.29	130.70	--	--	4452.67
	Change	-0.09	0.00	-62.25	-29.84	0.78	1.01	0.37	3.07	--	--	28.29

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

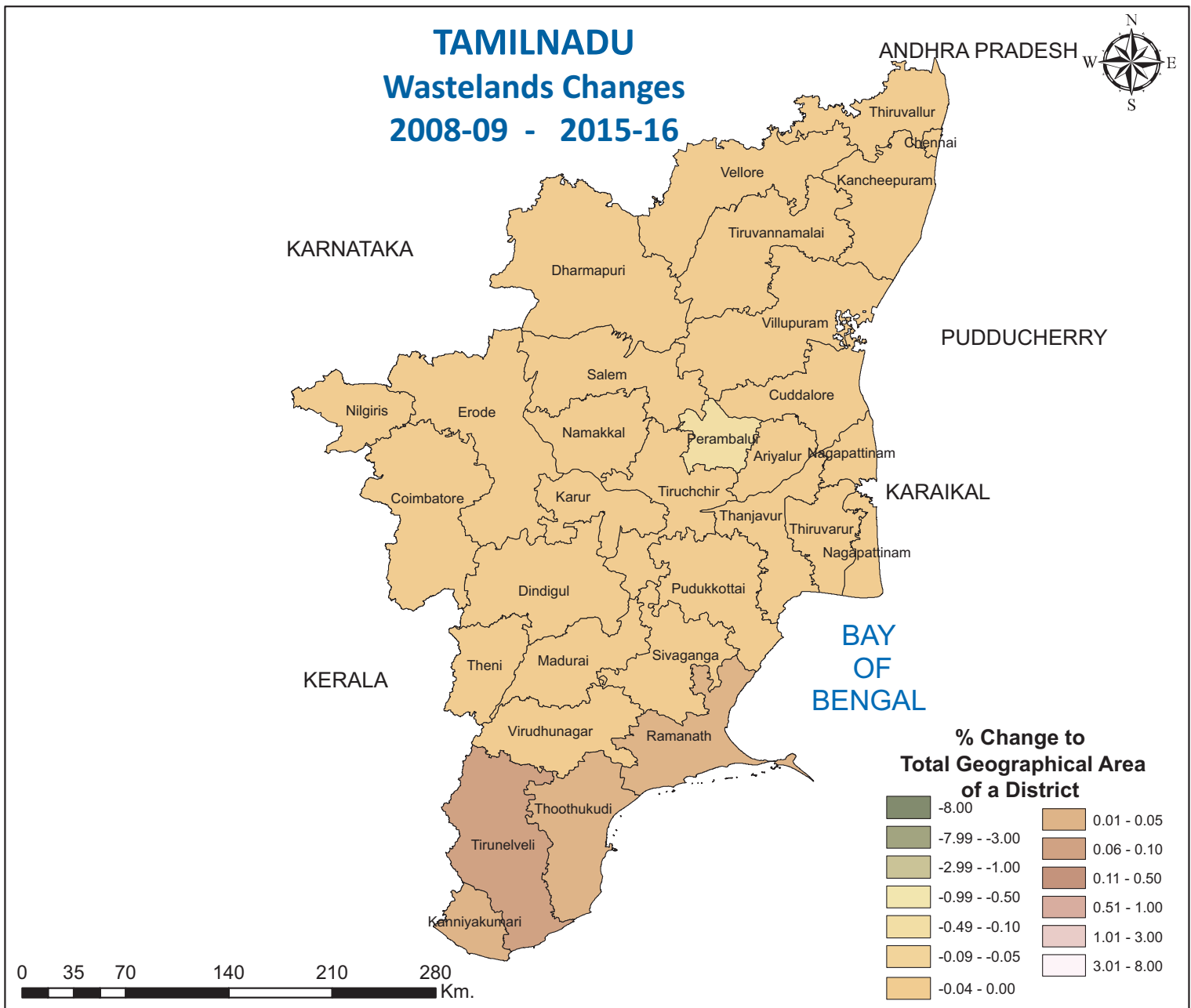
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|--|--|
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| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
597.31	0.05	--	0.17	--	--	--	0.35	4.07	0.17	24.51	--	1991.28	16128
605.70	0.05	--	0.53	--	--	--	0.35	13.01	--	24.51	--	2000.79	
8.39	0.00	--	0.35	--	--	--	0.00	8.94	-0.17	0.00	--	9.51	
--	0.50	--	--	--	--	--	--	--	--	--	--	5.23	217
--	0.48	--	--	--	--	--	--	--	--	--	--	5.20	
--	-0.03	--	--	--	--	--	--	--	--	--	--	-0.03	
51.12	--	--	0.10	--	--	--	--	49.78	0.16	73.40	--	1256.09	11823
51.12	--	--	0.10	--	--	--	--	62.67	0.16	73.08	--	1261.29	
0.00	--	--	0.00	--	--	--	--	12.88	0.00	-0.33	--	5.20	
1374.72	--	--	--	--	--	--	--	9.22	5.12	35.00	--	1790.07	13245
1611.67	--	--	--	--	--	--	--	11.19	5.64	35.00	--	2045.93	
236.95	--	--	0.00	--	--	--	--	1.97	0.51	0.00	--	255.85	
80.02	--	--	0.18	--	--	--	--	8.24	--	227.63	--	2235.78	18432
80.02	--	--	0.18	--	--	--	--	12.57	0.06	227.54	--	2249.41	
0.00	--	--	0.00	--	--	--	--	4.33	0.06	-0.10	--	13.63	
20.43	--	2.03	--	--	--	--	--	11.42	0.28	47.15	--	1298.50	9699
20.43	--	2.03	--	--	--	--	--	17.33	0.28	46.54	--	1298.02	
0.00	--	0.00	--	--	--	--	--	5.91	0.00	-0.61	--	-0.48	
78.84	--	--	0.12	--	--	--	--	25.70	0.71	185.24	--	1687.44	14240
78.86	--	--	0.12	--	--	--	--	26.33	1.17	184.96	--	1672.38	
0.02	--	--	0.00	--	--	--	--	0.63	0.45	-0.28	--	-15.06	
68.40	--	--	0.46	--	--	--	--	0.80	--	43.08	--	1245.62	7956
68.58	--	--	0.46	--	--	--	--	0.95	--	43.03	--	1213.34	
0.19	--	--	0.00	--	--	--	--	0.15	--	-0.06	--	-32.28	
78.99	29.51	0.00	--	--	--	--	--	28.12	1.70	54.94	--	968.87	7493
79.41	27.04	0.00	--	--	--	--	--	37.54	1.87	54.69	--	981.23	
0.42	-2.48	0.00	--	--	--	--	--	9.42	0.17	-0.24	--	12.36	
392.82	--	0.32	2.11	--	--	--	--	9.24	--	79.07	--	1384.52	12846
537.88	--	0.32	2.11	--	--	--	--	12.52	0.71	79.00	--	1513.62	
145.06	--	0.00	0.00	--	--	--	--	3.28	0.71	-0.07	--	129.10	
2742.65	30.07	2.35	3.14	--	--	--	0.35	146.59	8.14	770.03	--	13863.42	112079
3133.68	27.56	2.35	3.49	--	--	--	0.35	194.12	9.88	768.34	--	14241.21	
391.03	-2.50	0.00	0.35	--	--	--	0.00	47.53	1.74	-1.69	--	377.79	

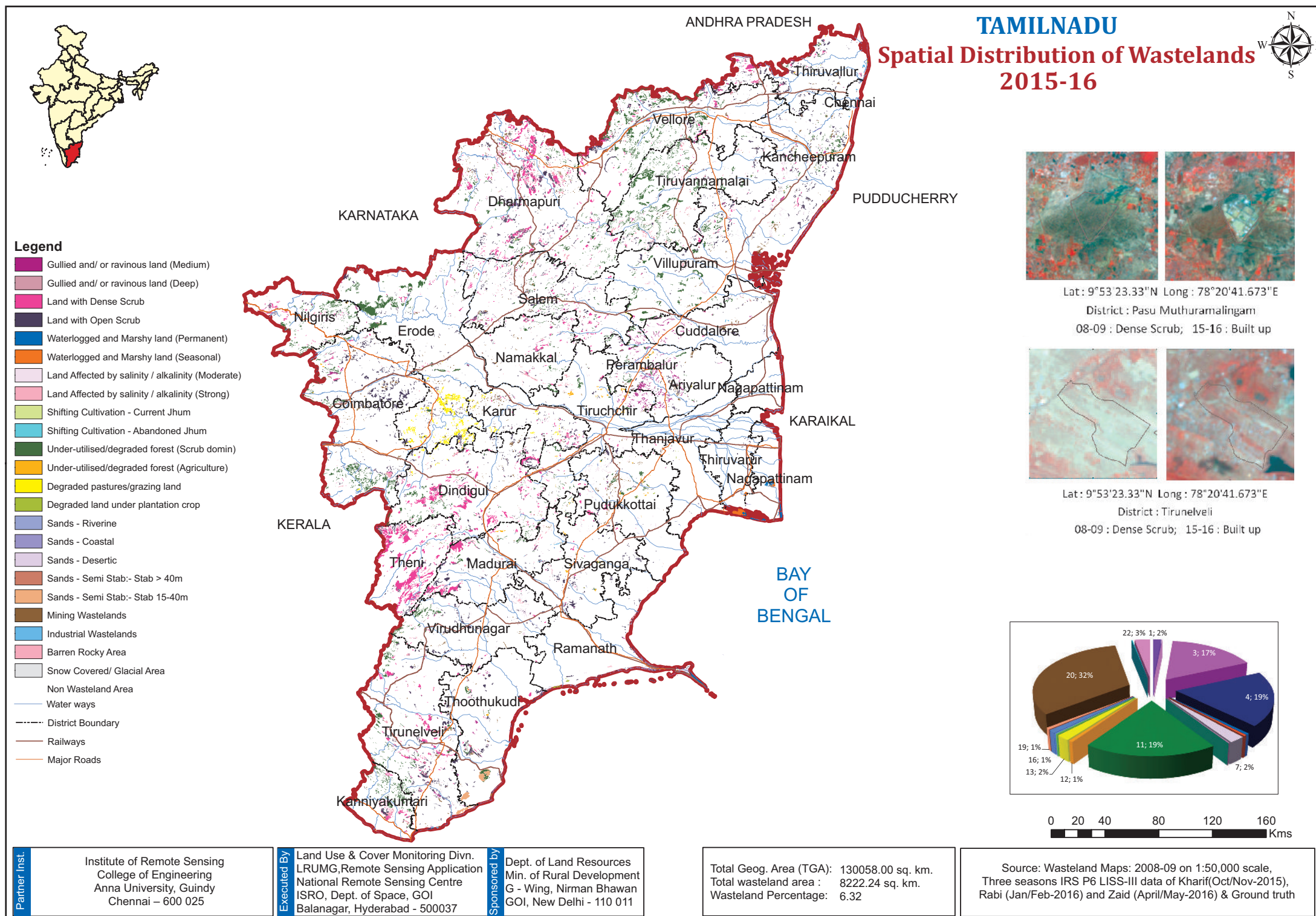
TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
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16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Overall decrease of wastelands area by 6.50 sq. km.
- Decrease in wastelands areas like **Land with Dense Scrub** (30.36 sq. km.), **Deg. Forest** (13.06 sq. km.) and **Sandy - coastal** (11.08 sq. km.) and increase in **Land with Open Scrub** (29.28 sq. km.), **Mining wastelands** (9.49 sq. km.) , **Industrial wastelands** (6.25 sq. km.) observed during this period.
- An area of 5.16 sq. km. of wastelands converted into built-up area and 4 sq. km. area converted to industrial area.
- Tirunelveli Kattabomman district has a decrease in wastelands area by 3.78 sq. km. and Perambalur by 1.83 sq. km.
- Thoothukudi district has an increase in wastelands area by 1.89 sq. km.
- No change in wastelands areas is observed in 18 districts between 2008-09 and 2015-16



TAMILNADU Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16																		WL 2008-09 becoming non WL in 2015-16						2008-09	
	1	2	3	4	5	6	7	8	11	12	13	14	15	16	19	20	21	22	24	25	26	27	28	32	Category Total	Grand Total
1	179.21			0.01																	0.79	0.79			180.80	8228.74
2		1.14																			0.03	0.06			1.23	
3	0.07		1942.84	22.75			0.12									2.39		0.61	2.60	2.15	0.15	0.10	0.15	0.07	1973.99	
4	0.27		0.56	2172.32			0.95									4.33	0.07	3.28	1.43	1.09	0.34	0.07		0.05	2184.76	
5					57.11																				57.11	
6						49.12																			49.12	
7			0.06	2.88			258.41									0.20			0.90		0.18	0.12	0.37	0.06	263.18	
8				0.40				19.16								0.06									19.61	
11	3.04								2216.11	0.14						0.05		9.71					0.11		2229.16	
12										70.95															70.95	
13				2.62							229.53					0.23			0.22	0.21			0.02		232.83	
14				0.04								23.21													23.26	
15				0.90								0.16	26.45												27.50	
16			0.05	9.66	0.38		0.07					1.69		129.05					0.01	0.46			0.12	0.13	141.62	
19															74.69										74.69	
20																343.88	3.58								347.47	
21																	12.90								12.90	
22			0.12													5.82	1.23	331.29		0.09					338.56	
999				2.45			1.07							1.48			1.36									
Category Total (2015-16)	182.58	1.14	1943.63	2214.04	57.49	49.12	260.62	19.16	2216.11	71.10	229.53	25.06	26.45	130.53	74.69	356.96	19.15	344.90	5.16	4.00	1.48	1.14	0.77	0.31		
Grand Total (2015-16)	8222.24																									

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	1.58	40		
2	0.09	2		
3	5.22	34		
4	2.98	23	2.45	7
5				
6				
7	1.63	4	1.07	5
8				
11	0.11	1		
12				
13	0.45	6		
14				
15				
16	0.71	13	1.48	32
19				
20				
21			1.36	2
22	0.09	1		
Total	12.87	124	6.36	46

Wastelands becoming Non-wastelands (-) 12.87
Non-wastelands becoming Wastelands (+) 6.36
NET Change (2015 - 16)- (2008 - 09) (-) 6.50

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
2008 - 09 Wastelands statistics are revised version.
Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Tamilnadu

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Ariyalur	2008-09	25.31	0.21	0.60	20.42	--	--	1.36	--	--	--	9.12
	2015-16	25.30	0.21	0.60	20.43	--	--	1.36	--	--	--	9.12
	Change	-0.01	0.00	0.00	0.01	--	--	0.00	--	--	--	0.00
Chennai	2008-09	--	--	0.12	0.22	--	--	--	--	--	--	0.60
	2015-16	--	--	0.12	0.22	--	--	--	--	--	--	0.60
	Change	--	--	0.00	0.00	--	--	--	--	--	--	0.00
Coimbatore	2008-09	9.48	--	21.27	234.07	--	--	1.24	0.25	--	--	178.09
	2015-16	9.48	--	21.25	231.87	--	--	0.61	0.25	--	--	178.09
	Change	0.00	--	-0.01	-2.20	--	--	-0.63	0.00	--	--	0.00
Cuddalore	2008-09	24.27	--	2.32	18.15	--	0.87	5.69	--	--	--	9.73
	2015-16	24.27	--	2.32	18.16	--	0.87	5.69	--	--	--	9.73
	Change	0.00	--	0.00	0.01	--	0.00	0.00	--	--	--	0.00
Dharmapuri	2008-09	--	--	151.18	134.46	--	--	1.44	0.04	--	--	87.42
	2015-16	--	--	151.18	134.46	--	--	1.44	0.04	--	--	87.42
	Change	--	--	0.00	0.00	--	--	0.00	0.00	--	--	0.00
Dindigul	2008-09	--	--	267.43	98.71	--	--	0.27	--	--	--	106.21
	2015-16	--	--	267.43	98.03	--	--	0.27	--	--	--	98.49
	Change	--	--	0.00	-0.68	--	--	0.00	--	--	--	-7.72
Erode	2008-09	0.36	--	19.34	117.52	--	--	1.03	--	--	--	263.88
	2015-16	0.36	--	19.34	117.79	--	--	1.03	--	--	--	261.89
	Change	0.00	--	0.00	0.27	--	--	0.00	--	--	--	-1.99
Kancheepuram	2008-09	1.21	--	21.59	126.92	--	--	43.49	--	--	--	59.39
	2015-16	1.21	--	21.59	126.88	--	--	43.49	--	--	--	59.39
	Change	0.00	--	0.00	-0.04	--	--	--	--	--	--	0.00
Kanniyakumari	2008-09	--	--	33.86	15.91	--	--	--	--	--	--	71.99
	2015-16	--	--	33.05	15.87	--	--	--	--	--	--	71.99
	Change	--	--	-0.81	-0.04	--	--	--	--	--	--	0.00
Karur	2008-09	1.66	--	61.02	73.59	--	--	0.55	--	--	--	6.22
	2015-16	2.00	--	58.09	75.85	--	--	0.93	--	--	--	6.22
	Change	0.34	--	-2.92	2.25	--	--	0.38	--	--	--	0.00
Krishnagiri	2008-09	--	--	231.63	143.93	--	--	0.96	0.03	--	--	50.10
	2015-16	--	--	231.63	143.93	--	--	0.96	0.03	--	--	50.10
	Change	--	--	0.00	0.00	--	--	0.00	0.00	--	--	0.00
Madurai	2008-09	--	--	144.30	80.69	--	--	8.95	0.48	--	--	24.00
	2015-16	--	--	138.86	86.84	--	--	8.52	0.41	--	--	24.00
	Change	--	--	-5.44	6.15	--	--	-0.43	-0.08	--	--	0.00
Nagapattinam	2008-09	--	--	--	0.94	39.49	17.29	--	--	--	--	--
	2015-16	--	--	--	0.94	39.49	17.29	--	--	--	--	--
	Change	--	--	--	0.00	0.00	0.00	--	--	--	--	--
Namakkal	2008-09	0.02	--	39.24	25.00	--	--	0.37	--	--	--	28.19
	2015-16	0.02	--	39.18	25.07	--	--	0.37	--	--	--	28.19
	Change	0.00	--	-0.07	0.07	--	--	0.00	--	--	--	0.00

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
0.49	--	0.16	1.81	--	--	--	--	16.21	0.62	--	--	76.30	1850
0.49	--	0.16	1.81	--	--	--	--	16.21	0.62	--	--	76.30	
0.00	--	0.00	0.00	--	--	--	--	0.00	0.00	--	--	0.00	
--	--	--	--	1.41	--	--	--	0.02	--	--	--	2.37	171
--	--	--	--	1.41	--	--	--	0.02	--	--	--	2.37	
--	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	
2.40	2.98	0.06	--	--	--	--	--	34.93	0.28	15.97	--	501.01	7468
2.40	2.98	0.06	--	--	--	--	--	35.18	0.28	18.56	--	501.01	
0.00	0.00	0.00	--	--	--	--	--	0.25	0.00	2.59	--	0.00	
0.02	--	0.18	0.33	8.19	--	--	--	13.97	2.33	1.09	--	87.14	3645
0.02	--	0.28	0.33	8.08	--	--	--	13.97	2.33	1.09	--	87.14	
0.00	--	0.10	0.00	-0.11	--	--	--	0.00	0.00	0.00	--	0.00	
0.50	--	--	--	--	--	--	--	4.09	--	23.54	--	402.67	4616
0.50	--	--	--	--	--	--	--	4.09	--	23.54	--	402.67	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	0.00	
0.06	14.35	--	--	--	--	--	--	15.56	0.04	7.42	--	510.05	6058
0.06	14.35	--	--	--	--	--	--	16.24	0.04	15.14	--	510.05	
0.00	0.00	--	--	--	--	--	--	0.68	0.00	7.73	--	0.00	
2.07	173.44	--	0.02	--	--	--	--	20.30	--	5.46	--	603.43	8165
2.07	173.09	--	0.02	--	--	--	--	20.54	--	7.25	--	603.38	
0.00	-0.35	--	0.00	--	--	--	--	0.24	--	1.79	--	-0.04	
0.83	--	6.95	0.04	13.28	--	--	--	20.02	0.86	2.93	--	297.51	4433
0.83	--	6.95	0.04	13.28	--	--	--	20.07	0.86	2.93	--	297.51	
0.00	--	0.00	0.00	0.00	--	--	--	0.04	0.00	0.00	--	0.00	
--	--	0.62	--	3.98	--	--	0.87	3.44	--	21.60	--	152.26	1674
--	--	0.62	--	4.06	--	--	0.87	4.28	--	21.60	--	152.34	
--	--	0.00	--	0.08	--	--	0.00	0.84	--	0.00	--	0.08	
0.08	38.05	--	0.86	--	--	--	--	18.50	--	3.71	--	204.24	3004
0.08	35.09	--	0.76	--	--	--	--	22.16	--	2.16	--	203.35	
0.00	-2.96	--	-0.09	--	--	--	--	3.66	--	-1.55	--	-0.90	
0.07	--	--	--	--	--	--	--	33.53	--	44.10	--	504.36	5026
0.07	--	--	--	--	--	--	--	33.53	--	44.10	--	504.36	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	0.00	
4.53	--	--	2.16	--	--	--	--	6.48	0.52	23.84	--	295.95	3774
4.53	--	--	1.65	--	--	--	--	3.16	5.20	22.61	--	295.77	
0.00	--	--	-0.51	--	--	--	--	-3.32	4.68	-1.23	--	-0.18	
--	--	0.28	--	9.62	--	--	--	--	--	--	--	67.63	2718
--	--	0.28	--	9.62	--	--	--	--	--	--	--	67.63	
--	--	0.00	--	0.00	--	--	--	--	--	--	--	0.00	
0.11	--	--	0.39	--	--	--	--	8.30	--	18.45	--	120.07	3430
0.11	--	--	0.39	--	--	--	--	8.30	--	18.45	--	120.07	
0.00	--	--	0.00	--	--	--	--	0.00	--	0.00	--	0.00	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal
17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area

Tamilnadu contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Nilgiris	2008-09	1.49	--	33.24	21.48	--	--	--	--	--	--	96.04
	2015-16	1.49	--	33.09	21.63	--	--	--	--	--	--	96.04
	Change	0.00	--	-0.15	0.15	--	--	--	--	--	--	0.00
Perambalur	2008-09	62.30	0.66	6.21	25.76	--	--	5.06	--	--	--	54.34
	2015-16	63.87	0.58	6.23	25.76	--	--	4.89	--	--	--	51.31
	Change	1.57	-0.09	0.02	0.00	--	--	-0.18	0.00	--	--	-3.04
Pudukkottai	2008-09	0.28	--	22.58	48.01	0.07	0.04	33.89	1.98	--	--	36.44
	2015-16	0.28	--	22.50	48.15	0.07	0.04	33.83	1.98	--	--	36.44
	Change	0.00	--	-0.08	0.13	0.00	0.00	-0.06	0.00	--	--	0.00
Ramanathapuram	2008-09	--	--	2.16	32.10	14.66	0.65	6.72	1.67	--	--	--
	2015-16	--	--	2.25	38.03	14.71	0.65	6.79	1.67	--	--	--
	Change	--	--	0.10	5.92	0.05	0.00	0.07	0.00	--	--	--
Salem	2008-09	2.76	--	82.51	105.44	--	--	0.13	--	--	--	53.05
	2015-16	2.65	--	82.54	105.42	--	--	0.13	--	--	--	53.05
	Change	-0.11	--	0.02	-0.02	--	--	0.00	--	--	--	0.00
Sivaganga	2008-09	1.22	--	13.77	64.53	--	--	14.62	2.86	--	--	9.63
	2015-16	1.22	--	11.59	66.10	--	--	13.99	2.86	--	--	9.63
	Change	0.00	--	-2.18	1.57	--	0.00	-0.63	0.00	--	--	0.00
Thanjavur	2008-09	0.18	--	2.77	7.62	--	0.36	2.70	--	--	--	--
	2015-16	0.18	--	2.58	7.82	--	0.36	2.70	--	--	--	--
	Change	0.00	--	-0.20	0.20	--	0.00	0.00	--	--	--	0.00
Theni	2008-09	--	--	414.35	60.61	--	--	--	--	--	--	0.71
	2015-16	--	--	414.35	60.61	--	--	--	--	--	--	0.71
	Change	--	--	0.00	0.00	--	--	--	--	--	--	0.00
Thiruvallur	2008-09	0.12	--	63.58	122.96	--	--	6.81	0.81	--	--	12.78
	2015-16	0.12	--	62.04	124.78	--	--	6.56	0.81	--	--	12.78
	Change	0.00	--	-1.54	1.82	--	--	-0.24	0.00	--	--	0.00
Thiruvarur	2008-09	--	--	0.27	3.87	2.89	29.22	--	--	--	--	--
	2015-16	--	--	0.27	3.87	2.89	29.22	--	--	--	--	--
	Change	--	--	0.00	0.00	0.00	0.00	--	--	--	--	--
Thoothukudi	2008-09	9.83	--	27.19	77.73	--	0.68	3.68	0.10	--	--	39.51
	2015-16	9.83	--	17.34	91.22	0.33	0.68	3.56	--	--	--	39.51
	Change	0.00	--	-9.85	13.49	0.33	0.00	-0.11	-0.10	--	--	0.00
Tiruchchirapalli	2008-09	24.84	--	30.59	35.40	--	--	11.66	--	--	--	39.45
	2015-16	24.84	--	30.34	35.51	--	--	11.66	--	--	--	39.45
	Change	0.00	--	-0.25	0.11	--	--	0.00	--	--	--	0.00
Tirunelveli Kattabo	2008-09	6.62	0.28	150.15	143.17	--	--	24.97	3.67	--	--	123.55
	2015-16	6.62	0.28	143.88	143.92	--	--	24.33	3.39	--	--	123.55
	Change	0.00	0.00	-6.27	0.75	--	--	-0.64	-0.28	--	--	0.00
Tiruvannamalai	2008-09	--	--	22.33	74.27	--	--	8.25	0.51	--	--	363.57
	2015-16	--	--	22.56	73.65	--	--	8.25	0.51	--	--	363.37
	Change	--	--	0.23	-0.62	--	--	0.00	0.00	--	--	-0.19

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
1.08	--	--	--	--	--	--	--	--	--	2.29	--	155.62	2549
1.08	--	--	--	--	--	--	--	--	--	2.29	--	155.62	
0.00	--	--	--	--	--	--	--	--	--	0.00	--	0.00	
7.57	--	--	--	--	--	--	--	10.10	--	3.43	--	175.44	1751
7.57	--	--	--	--	--	--	--	10.10	--	3.31	--	173.61	
0.00	--	--	--	--	--	--	--	0.00	--	-0.12	--	-1.83	
8.77	--	1.56	7.88	2.23	--	--	--	21.74	--	2.16	--	187.63	4664
8.77	--	1.56	7.88	2.23	--	--	--	21.74	--	2.16	--	187.63	
0.00	--	0.00	0.00	0.00	--	--	--	0.00	--	0.00	--	0.00	
--	--	8.41	0.91	60.44	--	--	--	--	--	--	--	127.71	4061
--	--	8.41	0.83	54.56	--	--	--	--	--	--	--	127.89	
--	--	0.00	-0.08	-5.88	--	--	--	--	--	--	--	0.18	
0.40	0.20	--	--	--	--	--	--	16.88	--	11.35	--	272.72	5220
0.40	0.20	--	--	--	--	--	--	16.88	--	11.35	--	272.61	
0.00	0.00	--	--	--	--	--	--	0.00	--	0.00	--	-0.12	
12.61	--	--	1.09	--	--	--	--	0.31	--	2.39	--	123.03	4189
12.61	--	--	0.98	--	--	--	--	0.18	0.21	2.39	--	121.76	
0.00	--	0.00	-0.11	0.00	--	--	--	-0.13	0.21	0.00	--	-1.27	
--	--	0.73	4.40	0.10	--	--	--	0.92	--	--	--	19.77	3397
--	--	0.89	4.24	0.10	--	--	--	0.92	--	--	--	19.77	
0.00	--	0.16	-0.16	0.00	--	--	--	0.00	--	--	--	0.00	
0.58	--	--	--	--	--	--	--	3.10	0.09	20.46	--	499.90	3067
0.58	--	--	--	--	--	--	--	3.56	0.09	20.00	--	499.90	
0.00	--	--	--	--	--	--	--	0.45	0.00	-0.45	--	0.00	
1.53	--	2.84	0.19	7.06	--	--	--	5.55	3.99	0.32	--	228.53	3423
1.53	--	2.80	0.19	7.06	--	--	--	5.55	3.99	0.32	--	228.53	
0.00	--	-0.04	0.00	0.00	--	--	--	0.00	0.00	0.00	--	0.00	
--	--	--	0.09	0.34	--	--	--	--	--	--	--	36.67	2098
--	--	--	0.09	0.34	--	--	--	--	--	--	--	36.67	
--	--	--	0.00	0.00	--	--	--	--	--	--	--	0.00	
3.53	--	0.29	0.76	18.43	--	--	55.25	9.80	1.91	3.06	--	251.74	4591
3.53	--	1.54	0.76	14.07	--	--	55.25	11.17	1.91	2.93	--	253.63	
0.00	--	1.25	0.00	-4.36	--	--	0.00	1.37	0.00	-0.13	--	1.89	
19.46	--	--	0.87	--	--	--	--	5.02	--	8.66	--	175.95	4386
19.46	--	--	0.87	--	--	--	--	5.09	--	8.66	--	175.88	
0.00	--	--	0.00	--	--	--	--	0.07	--	0.00	--	-0.07	
0.30	--	0.69	0.82	7.50	--	--	18.58	24.53	1.95	27.78	--	534.57	6824.52
0.30	--	1.04	0.72	6.68	--	--	18.58	29.10	3.31	25.08	--	530.79	
0.00	--	0.34	-0.10	-0.82	--	--	0.00	4.57	1.36	-2.70	--	-3.78	
1.42	--	0.14	0.25	--	--	--	--	6.57	--	57.90	--	535.21	6191
1.56	--	0.14	0.25	--	--	--	--	6.82	--	57.89	--	535.00	
0.14	--	0.00	0.00	--	--	--	--	0.25	--	-0.01	--	-0.21	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Tamilnadu

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11	12	13
Vellore	2008-09	--	0.08	77.30	125.53	--	--	2.36	0.59	--	--	293.45	2.38	--
	2015-16	--	0.08	76.54	125.53	--	--	2.36	0.59	--	--	293.34	2.38	--
	Change	--	0.00	-0.77	0.00	--	--	0.00	0.00	--	--	-0.11	0.00	--
Villupuram	2008-09	5.55	--	16.80	72.18	--	--	31.72	1.38	--	--	157.20	0.00	3.81
	2015-16	5.55	--	16.80	72.21	--	--	31.69	1.38	--	--	157.20	0.00	3.81
	Change	0.00	--	0.00	0.03	--	--	-0.03	0.00	--	--	0.00	0.00	0.00
Virudhunagar	2008-09	3.31	--	14.28	73.56	--	--	45.26	5.26	--	--	54.48	0.18	--
	2015-16	3.31	--	14.08	73.50	--	--	45.21	5.26	--	--	54.48	0.18	--
	Change	0.00	--	-0.21	-0.06	--	--	-0.05	0.00	--	--	0.00	0.00	--
Grand Total	2008-09	180.80	1.23	1973.99	2184.76	57.11	49.12	263.18	19.61	--	--	2229.16	70.95	232.83
	2015-16	182.58	1.14	1943.63	2214.04	57.49	49.12	260.62	19.16	--	--	2216.11	71.10	229.53
	Change	1.79	-0.09	-30.36	29.28	0.38	0.00	-2.56	-0.45	--	--	-13.06	0.14	-3.31

Tamilnadu contd...

Wastelands Area Changes – 2008-09 and 2015-16

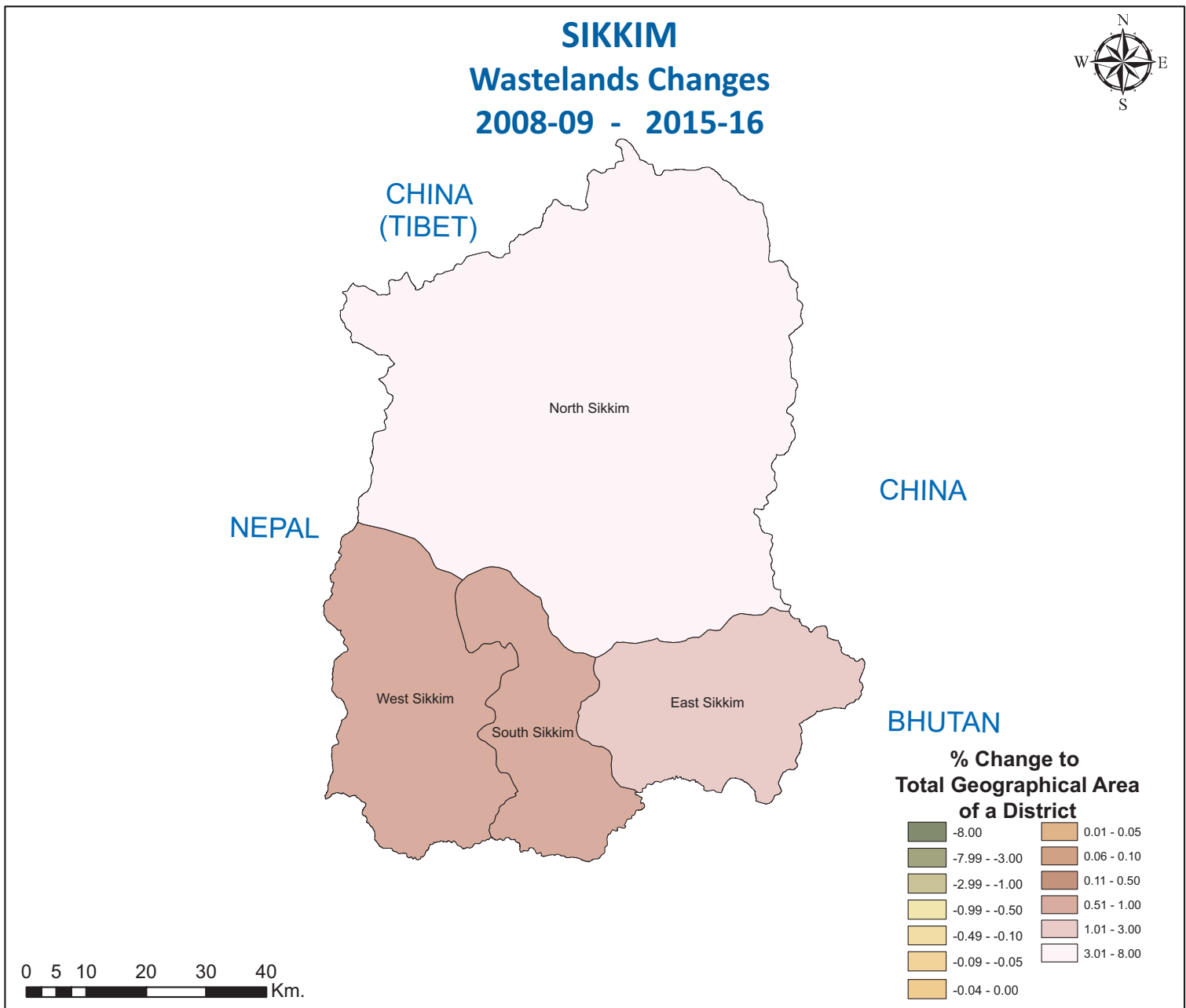
Area in sq.km

District	WL_Class	14	15	16	17	18	19	20	21	22	23	Total	TGA
Vellore	2008-09	--	0.67	--	--	--	--	9.32	--	11.29	--	522.98	6077
	2015-16	--	0.67	--	--	--	--	9.32	--	11.90	--	522.71	
	Change	--	0.00	--	--	--	--	0.00	--	0.61	--	-0.27	
Villupuram	2008-09	0.34	0.52	9.03	--	--	--	24.52	--	14.04	--	337.08	7254.48
	2015-16	0.34	0.52	9.03	--	--	--	24.52	--	14.04	--	337.08	
	Change	0.00	0.00	0.00	--	--	--	0.00	--	0.00	--	0.00	
Virudhunagar	2008-09	--	3.45	--	--	--	--	13.79	0.31	5.29	--	219.18	4283
	2015-16	--	3.45	--	--	--	--	14.29	0.31	5.11	--	219.18	
	Change	--	0.00	--	--	--	--	0.51	0.00	-0.18	--	0.00	
Grand Total	2008-09	23.26	27.50	141.62	--	--	74.69	347.47	12.90	338.56	--	8228.74	130058
	2015-16	25.06	26.45	130.53	--	--	74.69	356.96	19.15	344.90	--	8222.24	
	Change	1.80	-1.05	-11.08	--	--	0.00	9.49	6.25	6.34	--	-6.50	

Note: "--" Denotes this Class is not existing in the District / State
TGA - Total Geographical Area

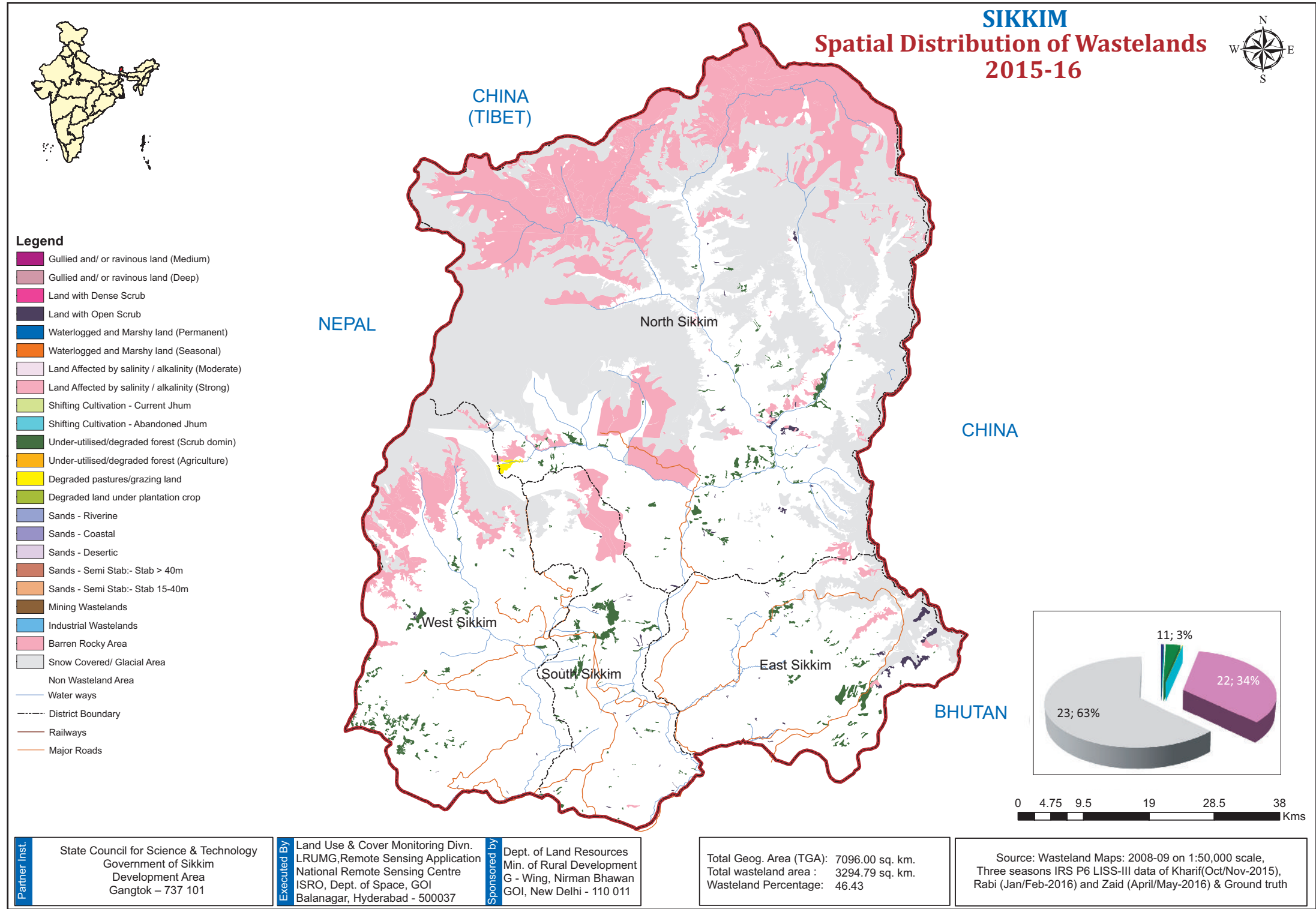
2008-09 Wastelands statistics are revised version.

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Increase of wastelands area by 69.70 sq. km.
- **Maximum** decrease in snow covered area by 274.21 sq. km.;
- Increase in barren rocky area by 313.17 sq. km.
- 4.40 sq. km. of area converted into forest dense/open during this period.
- North Sikkim district has an increase in wastelands area by 36.64 sq. km. and barren rocky area increased by 418.37 sq. km.
- East Sikkim district has an increased wasteland area by 16.08 sq. km. and snow cover by 101.01 sq. km.
- All four districts have increased area under wastelands from 2008-09 to 2015-16



SIKKIM

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16					WL 2008-09 becoming non WL in 2015-16	2008-09	
	4	11	13	22	23	29	Category Total	Grand Total
4	16.24				2.42		18.67	3225.09
11		57.01			1.68	0.29	58.98	
13			3.10				3.10	
22				669.21	134.53		803.74	
23				445.63	1890.85	4.11	2340.59	
999	0.05	35.09		2.07	36.89			
Category Total (2015-16)	16.30	92.09	3.10	1116.92	2066.38	4.40		
Grand Total (2015-16)	3294.79							

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
4			0.05	2
11	0.29	3	35.09	164
13				
22			2.07	1
23	4.11	2	36.89	19
Total	4.41	5	74.10	212

Wastelands becoming Non-wastelands (-)
Non-wastelands becoming Wastelands (+)
NET Change (2015 - 16) - (2008 - 09) (+)

4.41
74.10
69.70

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
2008 - 09 Wastelands statistics are revised version.
Area under category total is rounded to nearest decimal.

Wasteland Classes

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land affected by salinity/alkalinity (Medium)
- Land affected by salinity/alkalinity (Strong)

9. Shifting Cultivation - Current Jhum

- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/ grazing land
- Degraded land under plantation crop
- Sands-Riverine
- Sands-Coastal

17. Sands-Desertic

- Sands-Semi Stab.-Stab>40m
- Sands-Semi Stab.-Stab 15-40m
- Mining Wastelands
- Industrial wastelands
- Barren Rocky/Stony waste
- Snow covered /Glacial area
- Non-Wasteland Area

Non-Wasteland Classes

- Built-up
- Industrial Area
- Cropland
- Fallow Land
- Plantation
- Forest-Dense/Open
- Forest Plantation
- Grasslands
- Waterbodies

Sikkim

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11	12	13
East Sikkim	2008-09	--	--	--	9.11	--	--	--	--	--	--	4.19	--	--
	2015-16	--	--	--	9.14	--	--	--	--	--	--	18.10	--	--
	Change	--	--	--	0.03	--	--	--	--	--	--	13.91	--	--
North Sikkim	2008-09	--	--	--	7.35	--	--	--	--	--	--	24.63	--	3.10
	2015-16	--	--	--	4.95	--	--	--	--	--	--	28.93	--	3.10
	Change	--	--	--	-2.40	--	--	--	--	--	--	4.30	--	0.00
South Sikkim	2008-09	--	--	--	1.72	--	--	--	--	--	--	15.84	--	--
	2015-16	--	--	--	1.72	--	--	--	--	--	--	21.58	--	--
	Change	--	--	--	0.00	--	--	--	--	--	--	5.74	--	--
West Sikkim	2008-09	--	--	--	0.49	--	--	--	--	--	--	14.32	--	--
	2015-16	--	--	--	0.49	--	--	--	--	--	--	23.49	--	--
	Change	--	--	--	0.00	--	--	--	--	--	--	9.17	--	--
Grand Total	2008-09	--	--	--	18.67	--	--	--	--	--	--	58.98	--	--
	2015-16	--	--	--	16.30	--	--	--	--	--	--	92.09	--	--
	Change	--	--	--	-2.37	--	--	--	--	--	--	33.11	--	--

Sikkim contd...

Wastelands Area Changes – 2008-09 and 2015-16

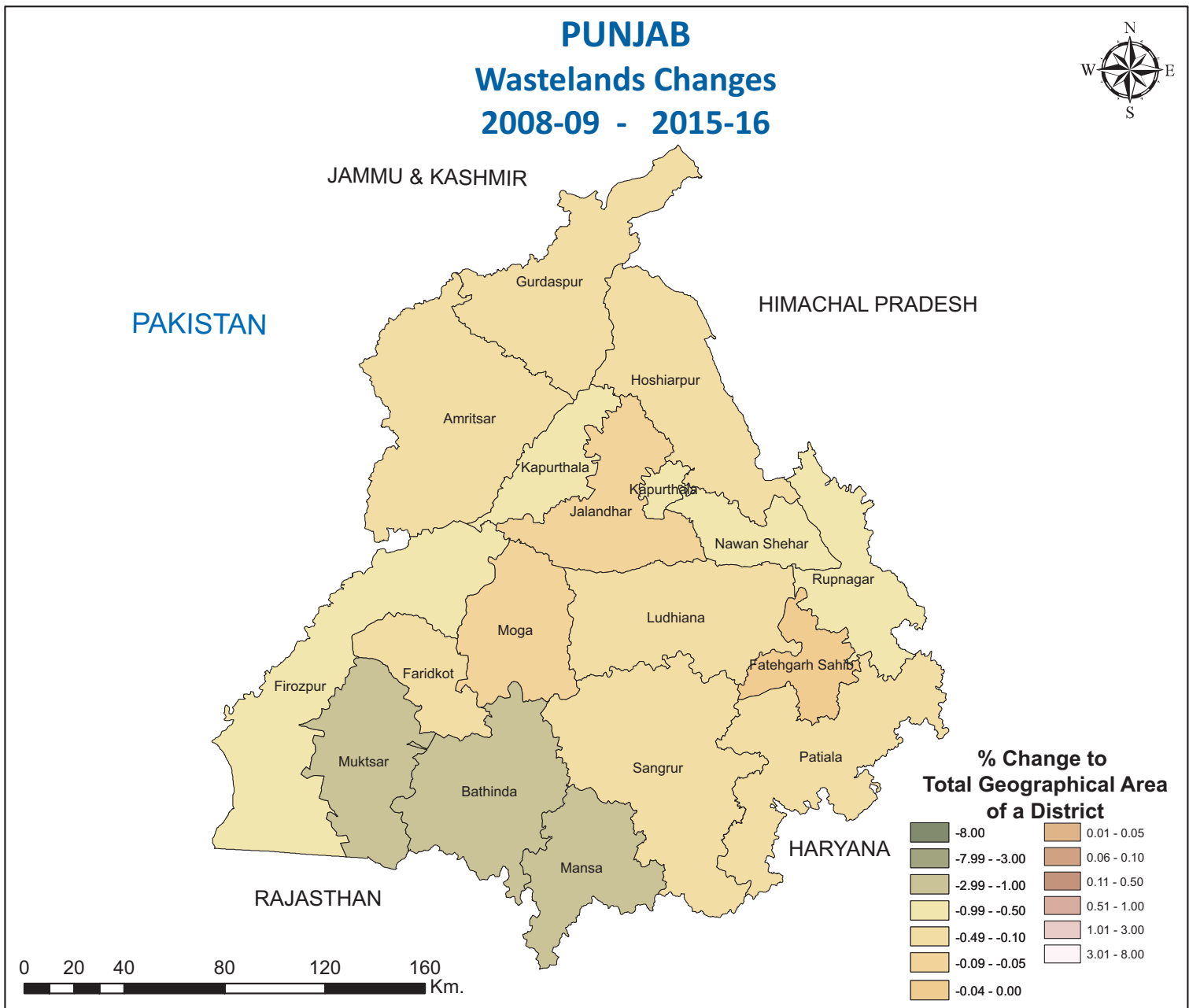
Area in sq.km

District	WL_Class	14	15	16	17	18	19	20	21	22	23	Total	TGA
East Sikkim	2008-09	--	--	--	--	--	--	--	--	109.43	2.19	124.92	954
	2015-16	--	--	--	--	--	--	--	--	10.56	103.20	141.00	
	Change	--	--	--	--	--	--	--	--	-98.87	101.01	16.08	
North Sikkim	2008-09	--	--	--	--	--	--	--	--	546.70	2202.32	2784.10	4226
	2015-16	--	--	--	--	--	--	--	--	965.07	1818.69	2820.74	
	Change	--	--	--	--	--	--	--	--	418.37	-383.63	36.64	
South Sikkim	2008-09	--	--	--	--	--	--	--	--	14.21	29.31	61.07	750
	2015-16	--	--	--	--	--	--	--	--	14.21	29.31	66.81	
	Change	--	--	--	--	--	--	--	--	0.00	0.00	5.74	
West Sikkim	2008-09	--	--	--	--	--	--	--	--	133.41	106.78	255.00	1166
	2015-16	--	--	--	--	--	--	--	--	127.08	115.18	266.24	
	Change	--	--	--	--	--	--	--	--	-6.33	8.40	11.24	
Grand Total	2008-09	--	--	--	--	--	--	--	--	803.74	2340.59	3225.09	7096
	2015-16	--	--	--	--	--	--	--	--	1116.92	2066.38	3294.79	
	Change	--	--	--	--	--	--	--	--	313.17	-274.21	69.70	

Note: "--" Denotes this Class is not existing in the District / State
TGA - Total Geographical Area

2008-09 Wastelands statistics are revised version.

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

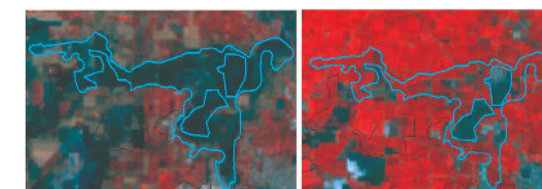
- A net Decrease of wastelands area by 279.15 sq. km.
 - **Sand (desertic)** decreased to 84.60 sq. km. from 242.84 sq. km. (158.24 sq. km.).
 - 242.74 sq. km. of wastelands area converted to cropland of which maximum contribution is from **desertic sand** (132.40 sq. km.); **waterlogged (permanent)** 19.51 sq. km.
 - Bhatinda district has a decrease in wastelands area by 62.52 sq. km. Contributed by reduction of **sand desertic** by 61.59 sq. km.
 - Firozpur district has a decrease in wastelands area by 51.59 sq. km.
- No district witnessed increase in wastelands.

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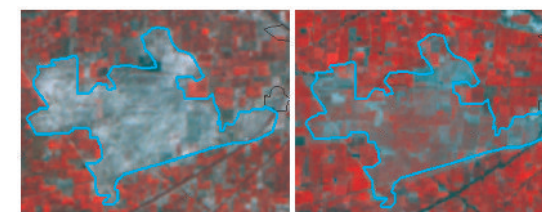
Spatial Distribution of Wastelands
2015-16

Legend

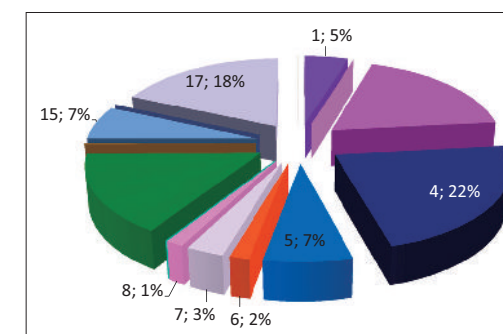
- Gullied and/ or ravine land (Medium)
- Gullied and/ or ravine land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- District Boundary
- Railways
- Major Roads



Lat : 30°14'23.19"N Long : 74°37'27.956"E ,
District: Muktsar
08-09 : Waterlogged and Marshy land(Permanent);
15-16 : Cropland



Lat : 30°1'24.297"N Long : 74°20'23.63"E ,
District: Firozpur
08-09 : Sands-Desertic; 15-16 : Cropland



0 15 30 60 90 120 Kms

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Total Geog. Area (TGA): 50362.00 sq. km.
Total wasteland area : 462.37 sq. km.
Wasteland Percentage: 0.92

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif(Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

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Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL 2008-09 becoming non_WL in 2015-16													WL 2008-09 becoming non_WL in 2015-16								2008-09		
	1	3	4	5	6	7	8	11	12	15	17	19	20	24	25	26	27	28	29	30	32	Category Total	Grand Total	
1	22.06		0.71					0.28	0.32				0.09	0.38	0.31	7.69	0.24					32.08	741.51	
3		84.80	8.52											0.40	0.29	17.02		0.13			1.54	112.70		
4		0.09	86.62											2.38	0.80	15.14	0.07	0.20			0.43	105.73		
5		0.34	0.41	32.41			1.04							0.02		19.51	0.12	0.06			0.40	54.30		
6			0.27	0.11	6.78	1.93								0.18		13.18					0.66	23.11		
7		0.01	1.60	0.12	0.07	9.22								1.58	0.31	10.79	0.16				0.02	23.88		
8				0.03		0.14	6.36							0.74	0.30	5.58					0.07	13.22		
11								72.65							0.79	1.08		0.08	0.60		0.06	75.26		
12									0.24													0.24		
15		0.54	1.82							28.47				0.35	0.03	20.33	0.35	0.80			5.36	58.05		
17			1.26								83.71			15.67	6.44	132.40	0.20	3.14			0.02	242.83		
20													0.10									0.10		
999		0.02	2.72	0.57	0.62	1.75	0.23	0.14		2.30	0.90	0.02												
Category Total (2015-16)	22.06	85.81	103.93	33.24	7.46	14.07	6.59	73.07	0.57	30.77	84.60	0.02	0.19	21.71	9.26	242.74	1.14	4.41	0.60		8.55			
Grand Total (2015-16)	462.37																							

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	8.63	121		
3	19.39	211	0.02	1
4	19.02	323	2.72	54
5	20.11	94	0.57	14
6	14.02	88	0.62	6
7	12.86	194	1.75	32
8	6.68	141	0.23	8
11	2.61	36	0.14	1
12				
15	27.22	340	2.30	29
17	157.86	2270	0.90	28
20			0.02	
Total	288.41	3818	9.26	173

Wastelands becoming Non-wastelands (-) 288.41
 Non-wastelands becoming Wastelands (+) 9.26
 NET Change (2015 - 16)- (2008 - 09) (-) 279.20

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Punjab

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Amritsar	2008-09	5.89	--	9.30	1.03	0.84	0.93	0.60	0.35	--	--	1.72
	2015-16	4.08	--	8.15	0.76	0.67	0.58	0.08	0.12	--	--	1.72
	Change	-1.81	--	-1.16	-0.26	-0.17	-0.35	-0.52	-0.23	--	--	0.00
Bathinda	2008-09	--	--	--	3.62	--	--	1.60	0.14	--	--	--
	2015-16	--	--	--	3.92	--	--	0.41	0.12	--	--	--
	Change	--	--	--	0.30	--	--	-1.20	-0.02	--	--	--
Faridkot	2008-09	--	--	--	1.26	0.44	1.30	0.27	0.13	--	--	15.05
	2015-16	--	--	--	0.72	0.15	1.10	0.12	0.03	--	--	15.03
	Change	--	--	--	-0.54	-0.29	-0.20	-0.16	-0.09	--	--	-0.02
Fatehgarh	2008-09	--	--	0.08	0.36	0.33	--	--	--	--	--	--
	2015-16	--	--	0.02	0.33	0.30	--	--	--	--	--	--
	Change	--	--	-0.06	-0.03	-0.03	--	--	--	--	--	--
Firozpur	2008-09	--	--	3.56	5.67	3.67	2.78	4.78	8.14	--	--	--
	2015-16	--	--	2.49	4.57	1.66	0.27	4.55	3.32	--	--	--
	Change	--	--	-1.07	-1.10	-2.01	-2.51	-0.24	-4.82	--	--	--
Gurdaspur	2008-09	8.69	--	9.54	6.15	15.72	2.47	0.13	--	--	--	8.83
	2015-16	8.59	--	9.45	6.15	14.38	1.51	0.11	--	--	--	8.08
	Change	-0.11	--	-0.09	0.00	-1.34	-0.96	-0.02	--	--	--	-0.75
Hoshiarpur	2008-09	5.32	--	32.04	16.63	1.62	2.05	0.02	--	--	--	15.35
	2015-16	5.21	--	28.55	15.57	1.48	1.44	0.02	--	--	--	15.24
	Change	-0.11	--	-3.49	-1.06	-0.13	-0.61	0.00	--	--	--	-0.11
Jalandhar	2008-09	--	--	0.05	0.33	0.08	0.04	--	--	--	--	--
	2015-16	--	--	0.05	0.17	0.08	0.03	--	--	--	--	--
	Change	--	--	0.00	-0.16	0.00	0.00	--	--	--	--	--
Kapurthala	2008-09	0.08	--	7.67	2.19	3.51	0.58	0.25	0.42	--	--	--
	2015-16	0.08	--	1.77	1.62	3.29	0.16	0.11	0.12	--	--	--
	Change	0.00	--	-5.89	-0.56	-0.23	-0.41	-0.14	-0.30	--	--	--
Ludhiana	2008-09	--	--	1.44	3.40	0.91	0.64	--	--	--	--	--
	2015-16	--	--	1.15	4.54	0.74	0.23	--	--	--	--	--
	Change	--	--	-0.28	1.14	-0.17	-0.41	--	--	--	--	--
Mansa	2008-09	--	--	--	1.84	0.07	0.43	0.04	--	--	--	--
	2015-16	--	--	--	2.08	0.07	0.42	--	--	--	--	--
	Change	--	--	--	0.25	0.00	0.00	-0.04	--	--	--	--
Moga	2008-09	--	--	--	0.72	--	0.01	0.06	--	--	--	--
	2015-16	--	--	--	0.42	--	0.01	--	--	--	--	--
	Change	--	--	--	-0.30	--	0.00	-0.06	--	--	--	--
Muktsar	2008-09	--	--	--	3.36	26.17	11.22	5.71	4.04	--	--	--
	2015-16	--	--	--	2.13	10.09	1.20	5.06	2.88	--	--	--
	Change	--	--	--	-1.23	-16.09	-10.02	-0.65	-1.16	--	--	--
NawanShehar	2008-09	3.37	--	5.39	4.47	0.02	--	--	--	--	--	11.05
	2015-16	0.27	--	4.16	2.67	--	--	--	--	--	--	11.13
	Change	-3.10	--	-1.23	-1.80	-0.02	--	--	--	--	--	0.08

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	8.31	--	--	--	--	--	--	--	--	28.96	5088
--	--	--	4.87	--	--	--	--	--	--	--	--	21.02	
--	--	--	-3.44	--	--	--	--	--	--	--	--	-7.94	
--	--	--	--	--	88.79	--	--	--	--	--	--	94.16	3401
--	--	--	--	--	27.20	--	--	--	--	--	--	31.65	
--	--	--	--	--	-61.59	--	--	--	--	--	--	-62.52	
--	--	--	--	--	3.04	--	--	--	--	--	--	21.48	1472
--	--	--	--	--	1.05	--	--	--	--	--	--	18.20	
--	--	--	--	--	-1.99	--	--	--	--	--	--	-3.28	
--	--	--	--	--	--	--	--	--	--	--	--	0.77	1177
--	--	--	--	--	--	--	--	--	--	--	--	0.66	
--	--	--	--	--	--	--	--	--	--	--	--	-0.12	
--	--	--	16.65	--	58.31	--	0.00	--	--	--	--	103.55	5853
--	--	--	9.81	--	25.29	--	0.02	--	--	--	--	51.97	
--	--	--	-6.84	--	-33.02	--	0.02	--	--	--	--	-51.59	
--	--	--	3.97	--	--	--	--	--	--	--	--	55.51	3570
--	--	--	2.70	--	--	--	--	--	--	--	--	50.97	
--	--	--	-1.27	--	--	--	--	--	--	--	--	-4.53	
0.11	--	--	9.91	--	--	--	--	0.10	--	--	--	83.05	3310
0.11	--	--	6.68	--	--	--	--	0.10	--	--	--	74.30	
0.00	--	--	-3.23	--	--	--	--	0.00	--	--	--	-8.75	
--	--	--	2.10	--	0.74	--	--	--	--	--	--	3.33	2643
--	--	--	0.40	--	0.28	--	--	--	--	--	--	1.00	
--	--	--	-1.70	--	-0.46	--	--	--	--	--	--	-2.33	
--	--	--	0.63	--	0.27	--	--	--	--	--	--	15.60	1633
--	--	--	0.03	--	--	--	--	--	--	--	--	7.19	
--	--	--	-0.60	--	-0.27	--	--	--	--	--	--	-8.41	
--	--	--	6.18	--	2.61	--	--	--	--	--	--	15.17	3762
--	--	--	0.59	--	0.89	--	--	--	--	--	--	8.15	
--	--	--	-5.59	--	-1.71	--	--	--	--	--	--	-7.03	
--	--	--	0.14	--	35.80	--	--	--	--	--	--	38.31	2150
--	--	--	0.06	--	8.76	--	--	--	--	--	--	11.40	
--	--	--	-0.08	--	-27.04	--	--	--	--	--	--	-26.91	
--	--	--	0.25	--	0.58	--	--	--	--	--	--	1.63	1672
--	--	--	0.12	--	0.18	--	--	--	--	--	--	0.73	
--	--	--	-0.13	--	-0.41	--	--	--	--	--	--	-0.90	
--	--	--	--	--	37.39	--	--	--	--	--	--	87.89	2608
--	--	--	--	--	18.41	--	--	--	--	--	--	39.77	
--	--	--	--	--	-18.97	--	--	--	--	--	--	-48.12	
--	--	--	3.23	--	--	--	--	0.00	--	--	--	27.52	1258
0.02	--	--	1.39	--	--	--	--	0.09	--	--	--	19.65	
0.02	--	--	-1.84	--	--	--	--	0.09	--	--	--	-7.88	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Punjab

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11	12	13
Patiala	2008-09	7.07	--	9.78	17.35	0.05	0.65	8.03	--	--	--	0.32	--	--
	2015-16	3.07	--	3.74	17.93	0.07	0.43	2.85	--	--	--	0.25	--	--
	Change	-4.01	--	-6.05	0.58	0.03	-0.22	-5.19	--	--	--	-0.06	--	--
Rupnagar	2008-09	1.65	--	33.83	34.29	0.85	--	2.37	--	--	--	22.96	0.14	--
	2015-16	0.77	--	26.27	36.85	0.26	0.07	0.76	--	--	--	21.62	0.44	--
	Change	-0.89	--	-7.57	2.56	-0.59	0.07	-1.60	--	--	--	-1.34	0.30	--
Sangrur	2008-09	--	--	0.02	3.07	0.02	0.02	--	--	--	--	--	--	--
	2015-16	--	--	0.02	3.49	--	--	--	--	--	--	--	--	--
	Change	--	--	0.00	0.42	-0.02	-0.02	--	--	--	--	--	--	--
Grand Total	2008-09	32.08	--	112.70	105.73	54.30	23.11	23.88	13.22	--	--	75.26	0.24	--
	2015-16	22.06	--	85.81	103.93	33.24	7.46	14.07	6.59	--	--	73.07	0.57	--
	Change	-10.03	--	-26.89	-1.81	-21.06	-15.64	-9.81	-6.63	--	--	-2.20	0.32	--

Punjab contd...

Wastelands Area Changes – 2008-09 and 2015-16

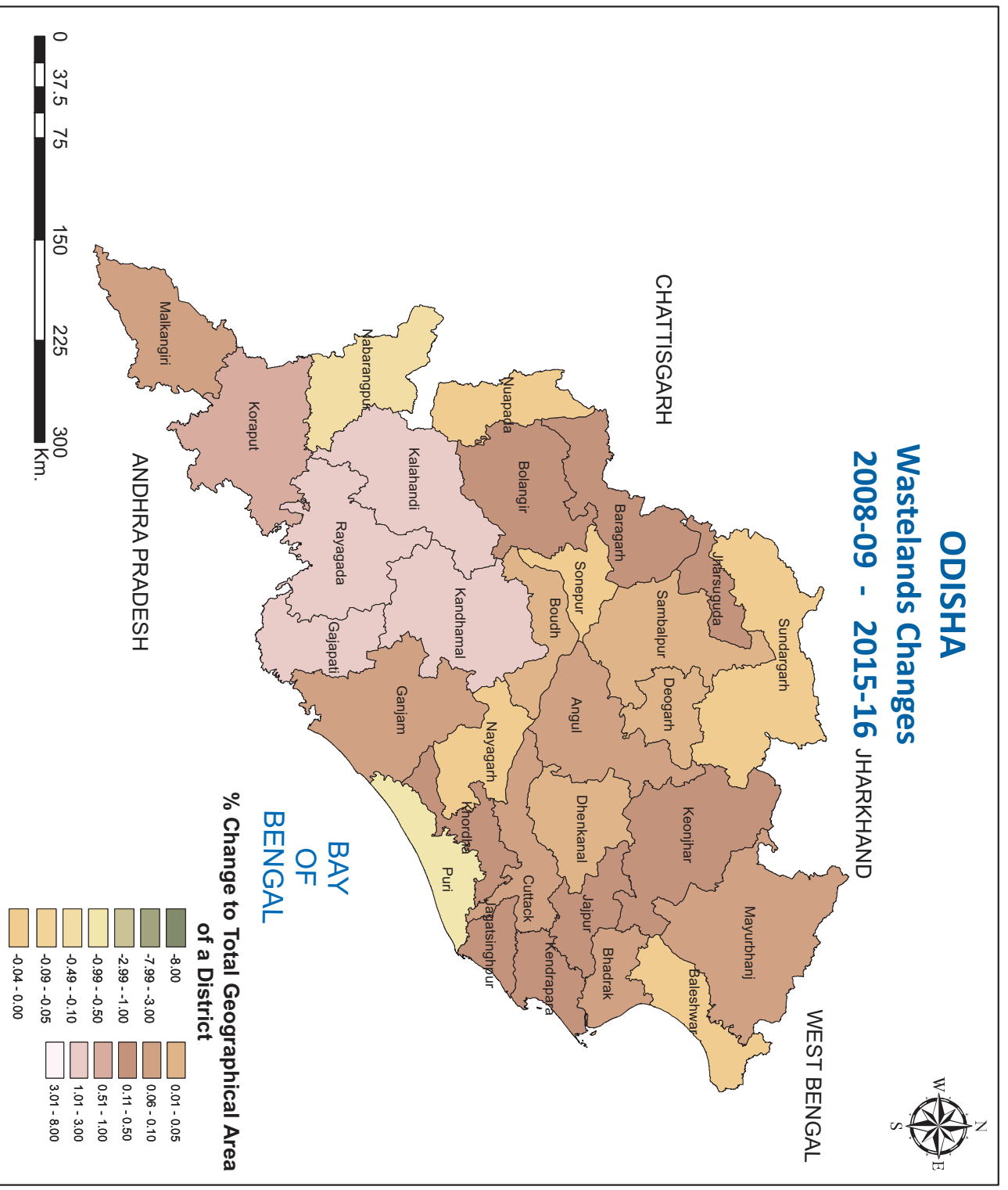
Area in sq.km

District	WL_Class	14	15	16	17	18	19	20	21	22	23	Total	TGA
Patiala	2008-09	--	0.04	--	2.11	--	--	--	--	--	--	45.40	3627
	2015-16	--	--	--	0.46	--	--	--	--	--	--	28.79	
	Change	--	-0.04	--	-1.65	--	--	--	--	--	--	-16.61	
Rupnagar	2008-09	--	6.65	--	--	--	--	--	--	--	--	102.74	2117
	2015-16	--	4.12	--	--	--	--	--	--	--	--	91.14	
	Change	--	-2.54	--	--	--	--	--	--	--	--	-11.60	
Sangrur	2008-09	--	--	--	13.19	--	--	--	--	--	--	16.32	5021
	2015-16	--	--	--	2.08	--	--	--	--	--	--	5.58	
	Change	--	--	--	-11.11	--	--	--	--	--	--	-10.73	
Grand Total	2008-09	--	58.05	--	242.83	--	--	0.10	--	--	--	741.51	50362
	2015-16	--	30.77	--	84.60	--	0.02	0.19	--	--	--	462.37	
	Change	--	-27.28	--	-158.22	--	0.02	0.09	--	--	--	-279.15	

Note: "--" Denotes this Class is not existing in the District / State
TGA - Total Geographical Area

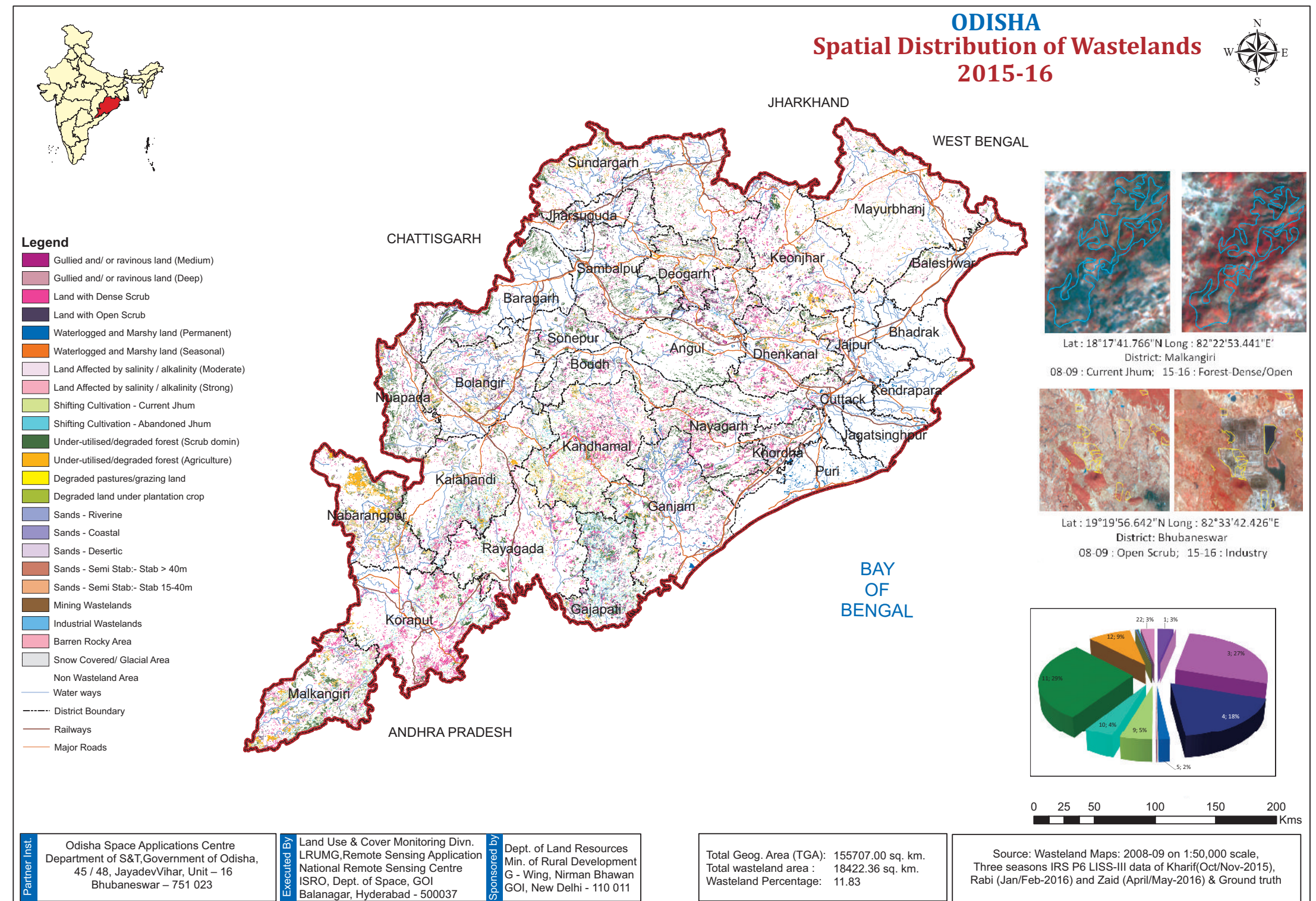
2008-09 Wastelands statistics are revised version.

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- **Increase** in wastelands area by 465.82 sq. km.
- **Increase** in **shifting cultivation-abandoned jhum** area by 311.38 sq. km.
- 36.84 sq. km. converted into forest plantation, primarily from land with open scrub by 24.27 sq. km.
- Puri district has a decrease in wastelands area by 19.87 sq. km. which has been contributed by **waterlogged/marshy area (seasonal), land with dense scrub and sand (coastal)**.
- Navrangpur district has a decrease in wastelands area by 14.97 sq. km. contributed by **land with dense and open scrub**.
- Kandhamal district has an overall increase in wastelands area by 108.54 sq. km. due to Increase in area under **Shifting cultivation (current)** by 90.57 sq. km.
- Kalahandi district witnessed overall increase in wastelands area by 81.03 sq. km.; Increase in area **under shifting cultivation (abandoned)** by 60.65 sq. km.and **Under-utilized/degraded forest (Scrub domin.)** by 12.01 sq. km.
- An area of 40.00 sq. km. of wastelands is converted into forest (dense/open) contributed from Deg. Forest, shifting cultivation (abandoned)



ODISHA

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16																		WL 2008-09 becoming non WL in 2015-16												2008-09	
	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	20	21	22	24	25	26	27	28	29	30	31	32	Category Total	Grand Total			
1	544.04		0.12	0.81																	1.65			0.16	0.26			547.05	17956.54			
2		14.69																										14.69				
3	0.10		4769.42	183.59	0.37				8.91	3.44		0.11					0.01		0.53	0.47	0.83	1.34	0.67	0.75	24.27	0.53	1.75	4997.11				
4	0.66		148.05	3065.40	0.21				3.61	2.07		0.61				0.96	0.19		0.83	0.62	0.12	0.21	0.88	0.27	5.09	0.17	0.60	3230.56				
5				0.18	240.71	2.32					0.06								0.13		9.14	0.08	1.41	1.62	0.26		1.93	257.82				
6			0.26	0.06	20.46	1.63					0.72										19.23			0.10			0.04	42.49				
7							5.81																					5.81				
8							4.83	15.45							0.03													20.31				
9	0.30		6.87	2.49					495.53	334.17	2.45	0.39									1.60	0.21		8.03	0.02		0.04	852.11				
10			2.62	2.69					73.70	395.33	3.87										0.42			18.38			0.22	497.22				
11	48.74					0.54			9.55	1.50	5074.69	4.91			0.08	0.07	0.15		0.47	1.05	1.14	2.18	0.19	6.99	5.65		0.38	5158.28				
12	0.08	0.05	0.55	10.57	0.03				2.38	0.47	96.50	1603.70								0.70	0.52	1.48	0.68	1.89				1719.60				
13																								0.00				0.00				
15			0.35	0.44										1.16							1.26							3.22				
16				0.39			0.13							0.26	56.72				0.18		0.06			1.56	1.29		1.48	62.07				
20				0.17												8.48				1.15				0.01				9.82				
21				0.19													29.76							0.24				30.19				
22																		508.19										508.19				
999	0.37		45.60	33.90	31.96		0.06		261.95	71.62	128.48	2.95	0.06	2.26	5.10	7.33	9.63															
Category Total (2015-16)	594.28	14.74	4973.84	3300.90	293.74	4.49	10.82	15.45	855.65	808.60	5306.77	1612.67	0.06	3.68	61.92	16.83	39.74	508.19	2.15	4.00	35.97	5.50	3.83	40.00	36.84	0.70	6.45					
Grand Total (2015-16)	18422.36																															

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	2.08	12	0.37	67
2				
3	31.15	431	45.60	223
4	8.80	146	33.90	240
5	14.56	125	31.96	254
6	19.37	41		
7			0.06	2
8				
9	9.90	266	261.95	1894
10	19.01	282	71.62	560
11	18.04	1453	128.48	831
12	5.26	38	2.95	16
13	0.00	2		
14			0.06	1
15	1.26	3	2.26	24
16	4.58	25	5.10	39
20	1.16	5	7.33	24
21	0.24	1	9.63	42
Total	135.43	2830	601.27	4217

Wastelands becoming Non-wastelands (-) 135.43
 Non-wastelands becoming Wastelands (+) 601.27
 NET Change (2015 - 16) - (2008 - 09) (+) 465.82

Green denotes Change from wasteland to non-wasteland
 Red denotes change from non-wasteland to wastelands
 Blue denotes no change in the wasteland category

2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes		Non-Wasteland Classes	
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Odisha

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Angul	2008-09	103.31	2.73	93.93	180.67	3.07	--	--	--	--	--	313.89
	2015-16	105.59	2.73	98.23	177.52	3.76	--	--	--	--	--	311.63
	Change	2.28	--	4.30	-3.15	0.69	--	--	--	--	--	-2.25
Baleshwar	2008-09	1.21	--	21.69	24.89	6.49	1.07	--	--	--	--	35.64
	2015-16	1.21	--	23.45	23.31	9.17	0.19	--	--	--	--	35.67
	Change	--	--	1.76	-1.58	2.68	-0.88	--	--	--	--	0.04
Bargarh	2008-09	8.22	--	82.18	136.42	0.53	--	--	--	--	--	287.93
	2015-16	8.22	--	82.05	136.55	0.53	--	--	--	--	--	301.55
	Change	0.00	--	-0.14	0.13	0.00	--	--	--	--	--	13.62
Bhadrak	2008-09	--	--	0.22	2.71	12.92	1.31	--	--	--	--	--
	2015-16	--	--	0.27	2.52	15.78	0.18	--	--	--	--	--
	Change	--	--	--	-0.19	2.86	-1.13	--	--	--	--	--
Balangir	2008-09	2.22	--	163.77	213.34	1.21	0.10	--	--	--	1.92	197.35
	2015-16	8.55	--	135.41	242.84	1.19	--	--	--	--	2.11	203.14
	Change	6.32	--	-28.36	29.50	-0.02	-0.10	--	--	--	0.20	5.79
Boudh	2008-09	1.90	--	125.23	89.22	--	--	--	--	0.65	1.24	132.77
	2015-16	1.90	--	100.76	113.70	--	--	--	--	0.63	0.97	133.51
	Change	0.00	0.00	-24.48	24.48	0.00	0.00	0.00	0.00	-0.02	-0.27	0.74
Cuttack	2008-09	--	--	100.59	76.87	26.24	2.36	--	--	0.05	--	72.53
	2015-16	--	--	96.40	79.66	31.91	0.02	--	--	--	--	74.07
	Change	--	--	-4.19	2.79	5.66	-2.34	0.00	0.00	-0.05	0.00	1.55
Deogarh	2008-09	18.37	0.10	72.20	99.03	0.23	--	--	--	--	--	107.11
	2015-16	18.36	0.10	72.91	98.60	0.23	--	--	--	--	--	106.80
	Change	-0.01	0.00	0.72	-0.43	0.00	0.00	0.00	0.00	0.00	0.00	-0.32
Dhenkanal	2008-09	15.67	--	217.40	100.15	0.58	--	--	--	--	0.56	105.66
	2015-16	15.67	--	214.95	102.77	0.59	--	--	--	0.47	0.56	105.21
	Change	0.00	0.00	-2.45	2.62	0.01	0.00	0.00	0.00	0.47	0.00	-0.45
Gajapati	2008-09	11.19	--	194.95	320.86	0.12	1.68	--	--	246.33	105.58	196.92
	2015-16	11.85	--	216.41	314.54	2.17	--	--	--	101.89	304.81	201.11
	Change	0.66	0.00	21.46	-6.32	2.06	-1.68	0.00	0.00	-144.45	199.24	4.19
Ganjam	2008-09	68.65	--	262.83	146.67	24.64	--	--	--	24.32	71.95	440.93
	2015-16	70.93	--	285.25	125.96	24.09	--	--	--	48.99	47.87	445.38
	Change	2.28	0.00	22.42	-20.71	-0.55	0.00	0.00	0.00	24.67	-24.07	4.44
Jagatsinghpur	2008-09	--	--	0.91	4.64	18.79	0.42	5.81	11.79	--	--	6.32
	2015-16	--	--	0.73	6.46	20.12	0.05	5.99	11.79	--	--	6.32
	Change	--	--	-0.18	1.82	1.33	-0.37	0.18	0.00	0.00	0.00	0.00
Jajapur	2008-09	0.20	--	33.44	77.87	20.85	7.54	--	--	0.42	--	58.15
	2015-16	0.20	--	33.86	77.65	30.07	--	--	--	0.97	0.03	58.69
	Change	0.00	0.00	0.42	-0.21	9.22	-7.54	0.00	0.00	0.55	0.03	0.54
Jharsuguda	2008-09	0.93	--	59.00	95.52	1.38	--	--	--	--	--	34.35
	2015-16	1.02	--	51.16	103.60	1.50	--	--	--	--	--	34.87
	Change	0.09	0.00	-7.84	8.08	0.12	0.00	0.00	0.00	0.00	0.00	0.52

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
14.75	--	--	--	--	--	--	--	0.29	10.14	4.16	--	726.92	6375
13.91	--	--	--	--	--	--	--	3.14	11.06	4.16	--	731.73	
-0.84	0.00	--	--	--	--	--	--	2.86	0.93	--	--	4.81	
5.69	--	--	0.30	2.88	--	--	--	--	--	2.80	--	102.65	3806
5.69	--	--	0.12	1.00	--	--	--	--	--	2.80	--	102.61	
--	--	--	-0.18	-1.88	--	--	--	--	--	--	--	-0.04	
11.13	--	--	--	--	--	--	--	0.68	--	3.87	--	530.97	5837
11.11	--	--	--	--	--	--	--	0.68	--	3.87	--	544.56	
-0.02	--	--	--	--	--	--	--	--	--	--	--	13.58	
--	--	--	0.24	--	--	--	--	--	0.04	--	--	17.42	2505
--	--	--	0.24	--	--	--	--	--	0.06	--	--	19.05	
--	--	--	--	--	--	--	--	--	--	--	--	1.62	
87.64	--	--	--	--	--	--	--	--	--	37.18	--	704.74	6575
87.64	--	0.06	--	--	--	--	--	--	--	37.18	--	718.12	
--	--	--	--	--	--	--	--	--	--	--	--	13.38	
5.57	--	--	--	--	--	--	--	--	--	8.79	--	365.37	3098
5.57	--	--	--	--	--	--	--	--	--	8.79	--	365.82	
0.00	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	0.45	
11.29	--	--	0.27	--	--	--	--	0.12	--	2.76	--	293.09	3932
10.08	--	--	0.17	--	--	--	--	1.05	0.16	2.76	--	296.29	
-1.21	0.00	0.00	-0.10	0.00	--	--	--	0.93	0.16	0.00	--	3.20	
54.87	--	--	--	--	--	--	--	--	--	5.26	--	357.16	2940
55.03	--	--	--	--	--	--	--	0.04	--	5.26	--	357.33	
0.16	0.00	0.00	0.00	0.00	--	--	--	0.04	0.00	0.00	--	0.17	
78.18	--	--	--	--	--	--	--	--	1.66	7.19	--	527.06	4452
78.32	--	--	--	--	--	--	--	--	1.66	7.19	--	527.41	
0.14	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	0.35	
30.63	--	--	--	--	--	--	--	--	--	49.22	--	1157.47	4325
28.46	--	--	--	--	--	--	--	--	--	49.22	--	1230.46	
-2.17	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	72.99	
74.51	--	--	--	9.07	--	--	--	--	--	32.22	--	1155.79	8206
68.95	--	--	0.12	11.31	--	--	--	--	--	32.22	--	1161.06	
-5.57	0.00	0.00	0.12	2.24	--	--	--	0.00	0.00	0.00	--	5.27	
--	--	--	0.02	22.96	--	--	--	--	10.33	--	--	81.98	1668
--	--	--	1.08	23.12	--	--	--	--	10.51	--	--	86.16	
0.00	0.00	0.00	1.06	0.16	--	--	--	0.00	0.18	0.00	--	4.18	
19.00	--	--	0.11	--	--	--	--	0.99	0.07	2.29	--	220.93	2899
18.99	--	--	0.11	--	--	--	--	0.83	0.60	2.29	--	224.31	
-0.01	0.00	0.00	0.00	0.00	--	--	--	-0.16	0.54	0.00	--	3.37	
1.87	--	--	--	--	--	--	--	6.03	1.75	0.94	--	201.77	2080
1.61	--	--	--	--	--	--	--	7.25	4.68	0.94	--	206.63	
-0.26	0.00	0.00	0.00	0.00	--	--	--	1.22	2.93	0.00	--	4.86	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Odisha contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Kalahandi	2008-09	21.12	--	217.87	171.59	0.44	0.01	--	--	84.01	66.02	291.24
	2015-16	22.75	--	216.78	174.83	0.44	--	--	--	91.36	126.67	303.25
	Change	1.63	0.00	-1.08	3.25	0.00	-0.01	0.00	0.00	7.35	60.65	12.01
Kandhamal	2008-09	2.40	--	514.14	132.58	--	--	--	--	158.94	54.90	230.80
	2015-16	2.74	--	525.65	123.97	--	--	--	--	249.51	65.36	236.73
	Change	0.34	0.00	11.50	-8.61	0.00	0.00	0.00	0.00	90.57	10.46	5.93
Kendrapara	2008-09	--	--	3.65	5.67	19.02	3.08	--	8.52	--	--	5.89
	2015-16	--	--	3.59	5.67	23.43	3.95	4.84	3.67	--	--	5.20
	Change	--	--	-0.06	0.00	4.41	0.87	4.84	-4.86	0.00	0.00	-0.69
Keonjhar	2008-09	66.74	10.08	250.31	289.65	10.13	1.34	--	--	4.79	10.55	161.27
	2015-16	70.07	10.13	250.57	296.09	11.49	--	--	--	22.80	7.94	160.60
	Change	3.34	0.05	0.25	6.44	1.37	-1.34	0.00	0.00	18.02	-2.61	-0.67
Khordha	2008-09	0.02	--	118.05	121.97	22.71	1.12	--	--	0.03	0.39	117.33
	2015-16	0.02	--	104.11	137.02	25.48	--	--	--	0.25	0.39	118.99
	Change	0.00	0.00	-13.95	15.05	2.77	-1.12	0.00	0.00	0.22	0.00	1.65
Koraput	2008-09	49.38	1.79	836.33	8.00	2.58	--	--	--	110.00	44.85	156.77
	2015-16	49.88	1.79	841.33	11.92	2.60	--	--	--	95.97	92.65	172.47
	Change	0.50	0.00	5.00	3.91	0.01	0.00	0.00	0.00	-14.03	47.80	15.70
Malkangiri	2008-09	1.01	--	373.15	101.71	--	--	--	--	175.90	128.26	349.03
	2015-16	1.01	--	374.79	99.41	--	--	--	--	196.94	116.12	353.01
	Change	0.00	0.00	1.65	-2.29	0.00	0.00	0.00	0.00	21.03	-12.14	3.98
Mayurbhanj	2008-09	2.33	--	71.45	118.61	0.41	0.01	--	--	--	--	170.60
	2015-16	2.33	--	88.37	110.43	0.43	0.01	--	--	--	--	189.63
	Change	0.00	0.00	16.92	-8.18	0.01	0.00	0.00	0.00	0.00	0.00	19.04
Nabarangpur	2008-09	3.74	--	126.41	158.31	0.57	--	--	--	10.92	1.51	216.43
	2015-16	6.03	--	119.14	150.03	0.55	--	--	--	9.86	1.29	257.83
	Change	2.29	0.00	-7.27	-8.28	-0.02	0.00	0.00	0.00	-1.06	-0.22	41.40
Nayagarh	2008-09	42.94	--	261.77	89.96	1.29	--	--	--	0.42	0.21	259.36
	2015-16	57.27	--	261.60	89.68	1.37	--	--	--	0.42	0.21	254.67
	Change	14.33	0.00	-0.16	-0.28	0.08	0.00	0.00	0.00	0.00	0.00	-4.69
Nuapada	2008-09	0.25	--	96.67	118.84	0.01	--	--	--	--	--	322.95
	2015-16	0.35	--	95.86	119.00	--	--	--	--	--	--	323.69
	Change	0.10	0.00	-0.81	0.16	-0.01	0.00	0.00	0.00	0.00	0.00	0.74
Puri	2008-09	--	--	15.80	11.60	82.08	22.45	--	--	--	--	8.10
	2015-16	--	--	14.36	12.31	85.25	0.08	--	--	--	--	9.10
	Change	--	--	-1.44	0.70	3.17	-22.37	0.00	0.00	0.00	0.00	1.00
Rayagada	2008-09	86.72	--	309.55	15.91	--	--	--	--	34.76	8.61	163.46
	2015-16	98.87	--	309.58	29.23	--	--	--	--	33.08	40.94	196.46
	Change	12.15	0.00	0.03	13.33	0.00	0.00	0.00	0.00	-1.69	32.33	33.00
Sambalpur	2008-09	29.95	--	126.56	211.57	1.31	0.01	--	--	--	0.62	275.07
	2015-16	31.06	--	119.80	218.45	1.37	0.01	--	--	--	0.62	273.59
	Change	1.11	0.00	-6.77	6.88	0.06	0.00	0.00	0.00	0.00	0.00	-1.48

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
121.50	--	--	1.70	--	--	--	--	0.07	2.07	55.09	--	1032.73	7920
120.30	--	--	--	--	--	--	--	0.07	2.23	55.09	--	1113.80	
-1.20	0.00	0.00	-1.70	0.00	--	--	--	0.00	0.17	0.00	--	81.07	
103.33	--	--	--	--	--	--	--	--	--	15.32	--	1212.43	8021
101.69	--	--	--	--	--	--	--	--	--	15.32	--	1320.97	
-1.64	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	108.54	
9.41	--	--	0.19	6.28	--	--	--	--	--	--	--	61.72	2644
9.38	--	--	0.97	7.00	--	--	--	--	--	--	--	67.70	
-0.03	0.00	0.00	0.77	0.72	--	--	--	0.00	0.00	0.00	--	5.98	
112.20	--	--	--	--	--	--	--	1.52	0.43	37.70	--	956.69	8303
110.27	--	--	--	--	--	--	--	1.23	0.29	37.70	--	979.17	
-1.93	0.00	0.00	0.00	0.00	--	--	--	-0.29	-0.14	0.00	--	22.48	
4.62	--	--	0.36	0.02	--	--	--	0.02	0.01	4.20	--	390.86	2813
4.16	--	--	0.36	0.02	--	--	--	0.02	0.01	4.20	--	395.03	
-0.46	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	4.17	
37.42	--	--	--	0.06	--	--	--	--	0.01	23.44	--	1270.63	8807
35.84	--	--	--	0.06	--	--	--	--	2.68	23.44	--	1330.62	
-1.58	0.00	0.00	0.00	0.00	--	--	--	0.00	2.67	0.00	--	59.99	
179.28	0.00	--	--	--	--	--	--	--	--	32.51	--	1340.84	5791
173.87	--	--	--	--	--	--	--	--	--	32.51	--	1347.66	
-5.41	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	6.81	
121.02	--	--	0.02	--	--	--	--	--	--	75.52	--	559.97	10418
99.83	--	--	0.02	--	--	--	--	0.06	--	75.52	--	566.62	
-21.20	0.00	0.00	0.00	0.00	--	--	--	0.06	0.00	0.00	--	6.65	
402.31	--	--	--	--	--	--	--	--	--	5.26	--	925.46	5291
360.51	--	--	--	--	--	--	--	--	--	5.26	--	910.49	
-41.80	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	-14.97	
25.92	--	--	--	--	--	--	--	--	0.27	50.53	--	732.68	3890
16.28	--	--	--	--	--	--	--	--	0.27	50.53	--	732.31	
-9.64	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	-0.37	
27.51	--	--	--	--	--	--	--	--	--	10.66	--	576.89	3852
26.49	--	--	--	--	--	--	--	--	--	10.66	--	576.06	
-1.02	0.00	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	-0.84	
0.70	--	--	--	20.80	--	--	--	--	--	--	--	161.53	3479
0.66	--	--	0.49	19.41	--	--	--	--	--	--	--	141.66	
-0.04	0.00	0.00	0.49	-1.39	--	--	--	0.00	0.00	0.00	--	-19.87	
66.77	--	--	--	--	--	--	--	--	2.16	13.31	--	701.25	7073
55.46	--	--	--	--	--	--	--	1.63	2.29	13.31	--	780.85	
-11.31	0.00	0.00	0.00	0.00	--	--	--	1.63	0.13	0.00	--	79.60	
22.74	--	--	--	--	--	--	--	0.03	1.20	2.26	--	671.32	6657
22.75	--	--	--	--	--	--	--	0.03	1.61	2.26	--	671.55	
0.01	0.00	0.00	0.00	0.00	--	--	--	0.00	0.42	0.00	--	0.23	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Odisha

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11	12	13
Sonepur	2008-09	1.16	--	65.00	30.88	0.04	0.02	--	--	--	--	153.17	6.42	--
	2015-16	1.16	--	53.95	41.88	0.04	--	--	--	--	--	153.15	6.42	--
	Change	0.00	0.00	-11.06	11.00	0.00	-0.02	0.00	0.00	0.00	0.00	-0.02	0.00	0.00
Sundargarh	2008-09	7.40	--	182.05	74.84	0.19	--	--	--	0.55	0.04	287.25	83.29	--
	2015-16	7.23	--	182.52	75.27	0.21	--	--	--	2.51	0.04	280.46	83.38	--
	Change	-0.18	0.00	0.47	0.43	0.01	0.00	0.00	0.00	1.96	0.00	-6.80	0.10	0.00
Grand Total	2008-09	547.05	14.69	4997.11	3230.56	257.82	42.49	5.81	20.31	852.11	497.22	5158.28	1719.60	0.00
	2015-16	594.28	14.74	4973.84	3300.90	293.74	4.49	10.82	15.45	855.65	808.60	5306.77	1612.67	--
	Change	47.23	0.05	-23.27	70.34	35.91	-38.00	5.02	-4.86	3.54	311.38	148.49	-106.93	0.00

Odisha contd...

Wastelands Area Changes – 2008-09 and 2015-16

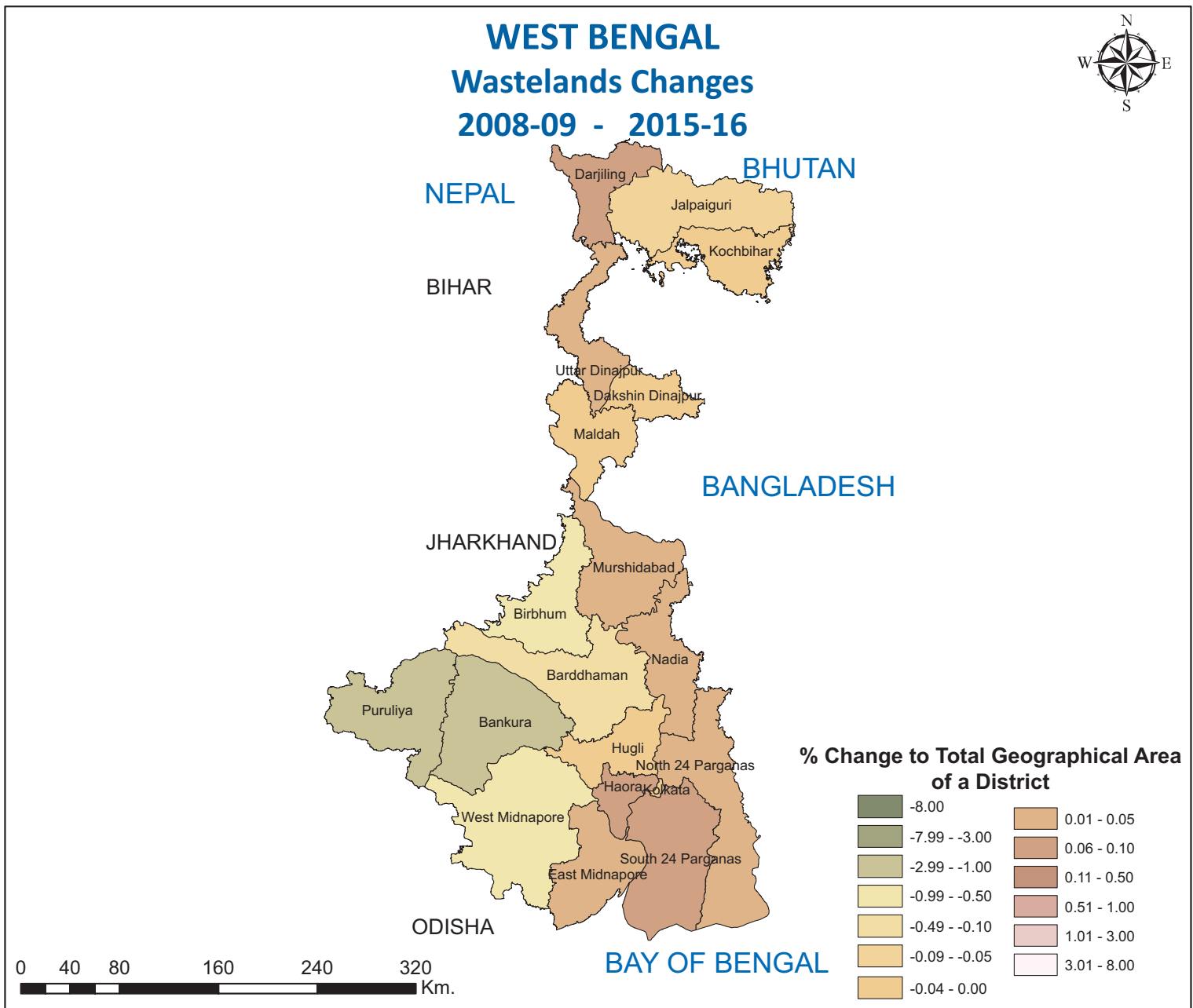
Area in sq.km

District	WL_Class	14	15	16	17	18	19	20	21	22	23	Total	TGA
Sonepur	2008-09	--	--	--	--	--	--	--	--	11.85	--	268.54	2337
	2015-16	--	--	--	--	--	--	--	--	11.85	--	268.44	
	Change	0.00	0.00	0.00	--	--	--	0.00	0.00	0.00	--	-0.10	
Sundargarh	2008-09	--	--	--	--	--	--	0.09	0.08	13.87	--	649.65	9712.2
	2015-16	--	--	--	--	--	--	0.80	1.62	13.87	--	647.90	
	Change	0.00	0.00	0.00	--	--	--	0.72	1.54	0.00	--	-1.75	
Grand Total	2008-09	--	3.22	62.07	--	--	--	9.82	30.19	508.19	--	17956.54	155707
	2015-16	0.06	3.68	61.92	--	--	--	16.83	39.74	508.19	--	18422.36	
	Change	0.06	0.47	-0.15	--	--	--	7.01	9.54	0.00	--	465.82	

Note: "--" Denotes this Class is not existing in the District / State
TGA - Total Geographical Area

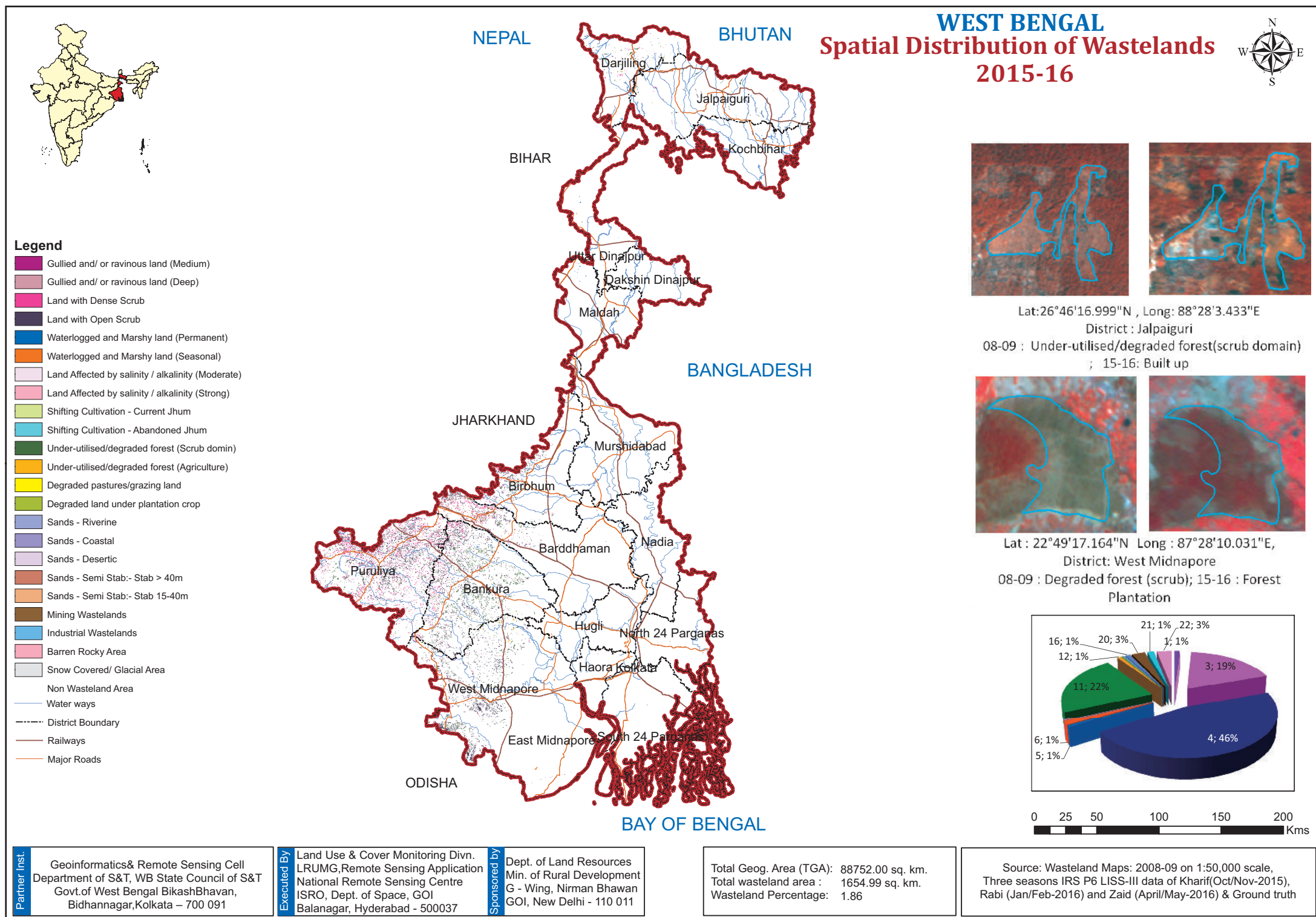
2008-09 Wastelands statistics are revised version.

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Net decrease of wastelands area observed in the state during this period (318.88 sq. km.)
- Maximum decrease was witnessed under **land with dense scrub** (174.39 sq. km.) followed by **Under-utilized/degraded forest (Scrub domin.)** by 152.63 sq. km.
- **Mining wastelands** increased by 17.29 sq. km.
- Puruliya district has a decrease of wastelands area by 130.51 sq. km. followed by Bankura district by 93.50 sq. km.
- An area of 5.13 sq. km. wastelands is increased in South 24 Paraganas district and 2.24 sq. km. in Darjeeling district



WEST BENGAL

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16																WL 2008-09 becoming non WL in 2015-16								2008-09				
	1	2	3	4	5	6	8	11	12	14	15	16	20	21	22	24	25	26	27	28	29	30	32	Category Total	Grand Total				
1	16.07		1.05	0.36												0.48	0.03	0.06		2.00		0.02	0.01	20.07	1973.87				
2		0.59																						0.59					
3	0.13		262.24	97.34		0.34							1.71	0.20		6.57	4.85	29.41		78.22	0.08		0.50	481.58					
4	0.58		25.19	630.56									2.01	0.62		16.25	13.62	29.90	0.16	82.07			1.26	802.24					
5					6.66	7.34										0.03	0.37	2.06						16.44					
6					0.51	12.24												0.03						12.78					
7								336.71	8.74							1.64					64.89	106.32	0.62	518.92					
8									3.83											0.10	0.42	0.40		4.75					
11										2.31														2.31					
12			0.01	0.28							5.04						0.07	2.37		0.41			0.16	8.34					
13							0.09					5.40				0.71				3.58			3.65	13.43					
14			0.22	0.65									26.02				0.51			0.04				27.44					
15														14.33										14.33					
20																								50.63					
999	0.30		18.49	40.10	1.48	4.88	2.94	29.58	0.40	1.51	1.70	9.93	14.99	8.69															
Category Total (2015-16)	17.09	0.59	307.20	769.28	8.66	24.80	3.04	366.28	12.97	3.82	6.73	15.33	44.73	23.85	50.63	30.16	29.24	73.20	0.16	175.14	65.75	106.99	7.09						
Grand Total (2015-16)	1654.99																												

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	2.60	51	0.30	7
2				
3	119.62	2069	18.49	304
4	143.27	1859	40.10	670
5	2.45	12	1.48	33
6	0.03	8	4.88	23
8			2.94	4
11	173.47	1511	29.58	240
12	0.93	11	0.40	3
14			1.51	8
15	3.01	49	1.70	20
16	7.94	41	9.93	86
20	0.55	65	14.99	95
21			8.69	28
22				
Total	453.87	5676	135.00	1521

Wastelands becoming Non-wastelands (-) **453.87**
 Non-wastelands becoming Wastelands (+) **135.00**
 NET Change (2015 - 16) - (2008 - 09) (-) **318.88**

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land affected by salinity/alkalinity (Medium)
- Land affected by salinity/alkalinity (Strong)

9. Shifting Cultivation - Current Jhum

- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/ grazing land
- Degraded land under plantation crop
- Sands-Riverine
- Sands-Coastal

17. Sands-Desertic

- Sands-Semi Stab.-Stab>40m
- Sands-Semi Stab.-Stab 15-40m
- Mining Wastelands
- Industrial wastelands
- Barren Rocky/Stony waste
- Snow covered /Glacial area
- Non-Wasteland Area

Non-Wasteland Classes

- Built-up
- Industrial Area
- Cropland
- Fallow Land
- Plantation
- Forest-Dense/Open
- Forest Plantation
- Grasslands
- Waterbodies

West Bengal

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Bankura	2008-09	3.67	--	90.07	209.99	--	--	--	--	--	--	195.64
	2015-16	3.11	--	54.07	195.60	--	--	--	--	--	--	147.21
	Change	-0.56	--	-36.00	-14.39	--	--	--	--	--	--	-48.43
Bardhaman	2008-09	1.15	--	67.38	65.77	0.42	0.53	--	--	--	--	19.25
	2015-16	1.01	--	54.40	62.99	0.42	1.12	--	--	--	--	8.79
	Change	-0.15	--	-12.97	-2.78	0.00	0.59	--	--	--	--	-10.45
Birbhum	2008-09	0.81	--	25.78	76.09	0.10	--	--	--	--	--	35.21
	2015-16	0.65	--	20.42	63.92	0.10	--	--	--	--	--	17.93
	Change	-0.16	--	-5.36	-12.17	0.00	--	--	--	--	--	-17.28
Dakshin Dinajpur	2008-09	--	--	--	0.14	0.16	--	--	--	--	--	--
	2015-16	--	--	--	0.14	0.16	--	--	--	--	--	--
	Change	--	--	--	0.00	0.00	--	--	--	--	--	--
Darjiling	2008-09	--	--	5.67	3.16	0.64	--	--	--	--	--	17.83
	2015-16	--	--	5.83	3.38	0.64	0.09	--	--	--	--	17.44
	Change	--	--	0.16	0.22	0.00	0.09	--	--	--	--	-0.38
East Midnapore	2008-09	--	--	--	--	--	2.41	--	--	--	--	--
	2015-16	--	--	--	--	--	3.80	--	--	--	--	--
	Change	--	--	--	--	--	1.39	--	--	--	--	--
Haora	2008-09	--	--	--	--	0.26	5.52	--	--	--	--	--
	2015-16	--	--	--	--	0.94	5.92	--	--	--	--	--
	Change	--	--	--	--	0.68	0.40	--	--	--	--	--
Hugli	2008-09	--	--	--	--	9.89	1.56	--	--	--	--	--
	2015-16	--	--	--	--	0.46	10.84	--	--	--	--	--
	Change	--	--	--	--	-9.43	9.28	--	--	--	--	--
Jalpaiguri	2008-09	--	--	10.44	5.86	0.88	0.30	--	--	--	--	19.06
	2015-16	--	--	7.31	4.27	0.82	0.27	--	--	--	--	19.10
	Change	--	--	-3.13	-1.59	-0.06	-0.03	--	--	--	--	0.04
Kochbihar	2008-09	--	--	0.07	0.50	--	--	--	--	--	--	0.36
	2015-16	--	--	0.07	0.23	--	--	--	--	--	--	--
	Change	--	--	0.00	-0.28	--	--	--	--	--	--	-0.36
Kolkata	2008-09	--	--	--	--	--	--	--	--	--	--	--
	2015-16	--	--	--	--	--	--	--	--	--	--	--
	Change	--	--	--	--	--	--	--	--	--	--	--
Maldah	2008-09	--	--	0.01	1.76	2.99	0.88	--	--	--	--	--
	2015-16	--	--	0.59	0.04	3.82	1.01	--	--	--	--	--
	Change	--	--	0.58	-1.72	0.83	0.14	--	--	--	--	--
Murshidabad	2008-09	--	--	0.43	0.39	--	--	--	--	--	--	1.12
	2015-16	--	--	0.66	0.33	--	--	--	--	--	--	--
	Change	--	--	0.23	-0.06	--	--	--	--	--	--	-1.12
Nadia	2008-09	--	--	2.20	0.43	--	--	--	--	--	--	0.24
	2015-16	--	--	2.20	0.43	0.04	--	--	--	--	--	0.22
	Change	--	--	0.00	0.00	0.04	--	--	--	--	--	-0.01

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
1.50	--	--	1.63	--	--	--	--	0.24	2.69	11.43	--	516.87	6882
3.51	--	--	1.09	--	--	--	--	3.44	3.91	11.43	--	423.37	
2.00	--	--	-0.54	--	--	--	--	3.20	1.22	0.00	--	-93.50	
0.44	--	--	1.11	--	--	--	--	24.46	5.73	0.25	--	186.49	7024
0.50	--	--	1.16	--	--	--	--	37.71	6.43	0.25	--	174.80	
0.06	--	--	0.05	--	--	--	--	13.25	0.70	0.00	--	-11.70	
0.04	--	--	2.28	--	--	--	--	0.86	0.91	0.61	--	142.70	4545
0.04	--	--	1.80	--	--	--	--	1.47	1.79	0.61	--	108.73	
0.00	--	--	-0.49	--	--	--	--	0.61	0.88	0.00	--	-33.97	
--	--	--	--	--	--	--	--	--	--	--	--	0.29	2192
--	--	--	--	--	--	--	--	--	--	--	--	0.29	
--	--	--	--	--	--	--	--	--	--	--	--	0.00	
0.20	--	2.31	--	--	--	--	--	--	--	3.91	--	33.71	3149
0.83	--	3.82	--	--	--	--	--	--	--	3.91	--	35.95	
0.64	--	1.51	--	--	--	--	--	--	--	0.00	--	2.24	
--	--	--	--	2.61	--	--	--	--	0.99	--	--	6.01	4480
--	--	--	--	1.75	--	--	--	--	0.99	--	--	6.54	
--	--	--	--	-0.86	--	--	--	--	0.00	--	--	0.53	
--	--	--	--	--	--	--	--	--	--	--	--	5.78	1467
--	--	--	--	--	--	--	--	--	--	--	--	6.86	
--	--	--	--	--	--	--	--	--	--	--	--	1.09	
--	--	--	--	--	--	--	--	1.38	--	--	--	12.82	3149
--	--	--	--	--	--	--	--	1.38	--	--	--	12.67	
--	--	--	--	--	--	--	--	0.00	--	--	--	-0.15	
0.28	--	--	0.77	--	--	--	--	--	--	--	--	37.60	6227
0.69	--	--	0.20	--	--	--	--	--	--	--	--	32.67	
0.42	--	--	-0.57	--	--	--	--	--	--	--	--	-4.93	
0.46	--	--	0.07	--	--	--	--	--	--	--	--	1.47	3387
0.46	--	--	0.07	--	--	--	--	--	--	--	--	0.83	
0.00	--	--	0.00	--	--	--	--	--	--	--	--	-0.64	
--	--	--	--	--	--	--	--	--	--	--	--	--	104
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	0.19	--	--	--	--	--	--	--	--	5.84	3733
--	--	--	0.10	--	--	--	--	--	--	--	--	5.57	
--	--	--	-0.09	--	--	--	--	--	--	--	--	-0.27	
--	--	--	0.39	--	--	--	--	--	4.01	--	--	6.34	5324
--	--	--	0.31	--	--	--	--	--	6.99	--	--	8.29	
--	--	--	-0.08	--	--	--	--	--	2.98	--	--	1.95	
--	--	--	--	--	--	--	--	--	--	--	--	2.87	3927
--	--	--	--	--	--	--	--	--	--	--	--	2.90	
--	--	--	--	--	--	--	--	--	--	--	--	0.03	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

West Bengal

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
North 24 Parganas	2008-09	--	--	--	--	--	0.01	--	--	--	--	0.08
	2015-16	--	--	--	--	--	0.09	--	--	--	--	0.08
	Change	--	--	--	--	--	0.08	--	--	--	--	0.00
Puruliya	2008-09	7.21	--	269.89	176.71	--	--	--	--	--	--	113.69
	2015-16	5.20	--	149.45	208.22	--	--	--	--	--	--	70.44
	Change	-2.01	--	-120.44	31.52	--	--	--	--	--	--	-43.25
South 24 Parganas	2008-09	--	--	--	--	0.53	--	--	--	--	--	1.80
	2015-16	--	--	--	--	0.53	0.11	--	3.04	--	--	1.80
	Change	--	--	--	--	0.00	0.11	--	3.04	--	--	0.00
Uttar Dinajpur	2008-09	--	--	0.10	0.13	0.57	1.59	--	--	--	--	--
	2015-16	--	--	0.04	0.12	0.71	1.54	--	--	--	--	--
	Change	--	--	-0.06	-0.01	0.15	-0.05	--	--	--	--	--
West Midnapore	2008-09	7.22	0.59	9.54	261.30	--	--	--	--	--	--	114.65
	2015-16	7.11	0.59	12.15	229.60	--	--	--	--	--	--	83.27
	Change	-0.11	0.00	2.61	-31.70	--	--	--	--	--	--	-31.37
Grand Total	2008-09	20.07	0.59	481.58	802.24	16.44	12.78	--	--	--	--	518.92
	2015-16	17.09	0.59	307.20	769.28	8.66	24.80	--	3.04	--	--	366.28
	Change	-2.99	0.00	-174.39	-32.96	-7.79	12.02	--	3.04	--	--	-152.63

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

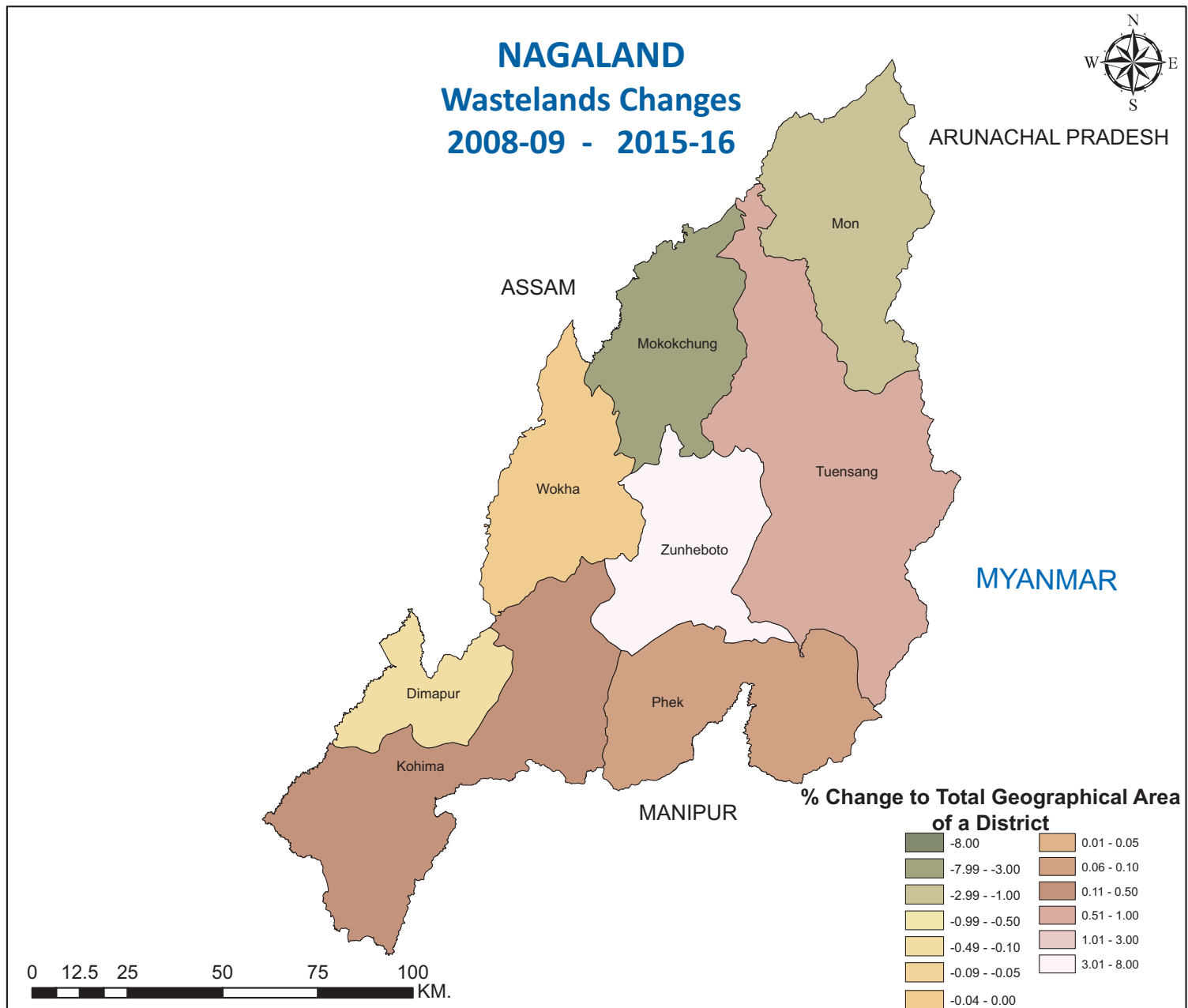
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	0.65	--	--	--	--	--	--	--	0.73	3978
--	--	--	--	1.43	--	--	--	--	--	--	--	1.60	
--	--	--	--	0.78	--	--	--	--	--	--	--	0.86	
1.10	--	--	--	--	--	--	--	0.10	--	32.00	--	600.69	6259
0.58	--	--	0.31	--	--	--	--	0.32	3.67	32.00	--	470.19	
-0.52	--	--	0.31	--	--	--	--	0.23	3.67	0.00	--	-130.51	
--	--	--	--	10.17	--	--	--	--	--	--	--	12.51	10158
--	--	--	--	12.15	--	--	--	--	--	--	--	17.64	
--	--	--	--	1.98	--	--	--	--	--	--	--	5.13	
--	--	--	--	--	--	--	--	--	--	--	--	2.39	3166
--	--	--	--	--	--	--	--	--	--	--	--	2.41	
--	--	--	--	--	--	--	--	--	--	--	--	0.02	
0.73	--	--	1.89	--	--	--	--	0.40	--	2.43	--	398.77	9601
6.35	--	--	1.70	--	--	--	--	0.40	0.06	2.43	--	343.68	
5.62	--	--	-0.19	--	--	--	--	0.00	0.06	0.00	--	-55.09	
4.75	--	2.31	8.34	13.43	--	--	--	27.44	14.33	50.63	--	1973.87	88752
12.97	--	3.82	6.73	15.33	--	--	--	44.73	23.85	50.63	--	1654.99	
8.21	--	1.51	-1.60	1.90	--	--	--	17.29	9.52	0.00	--	-318.88	

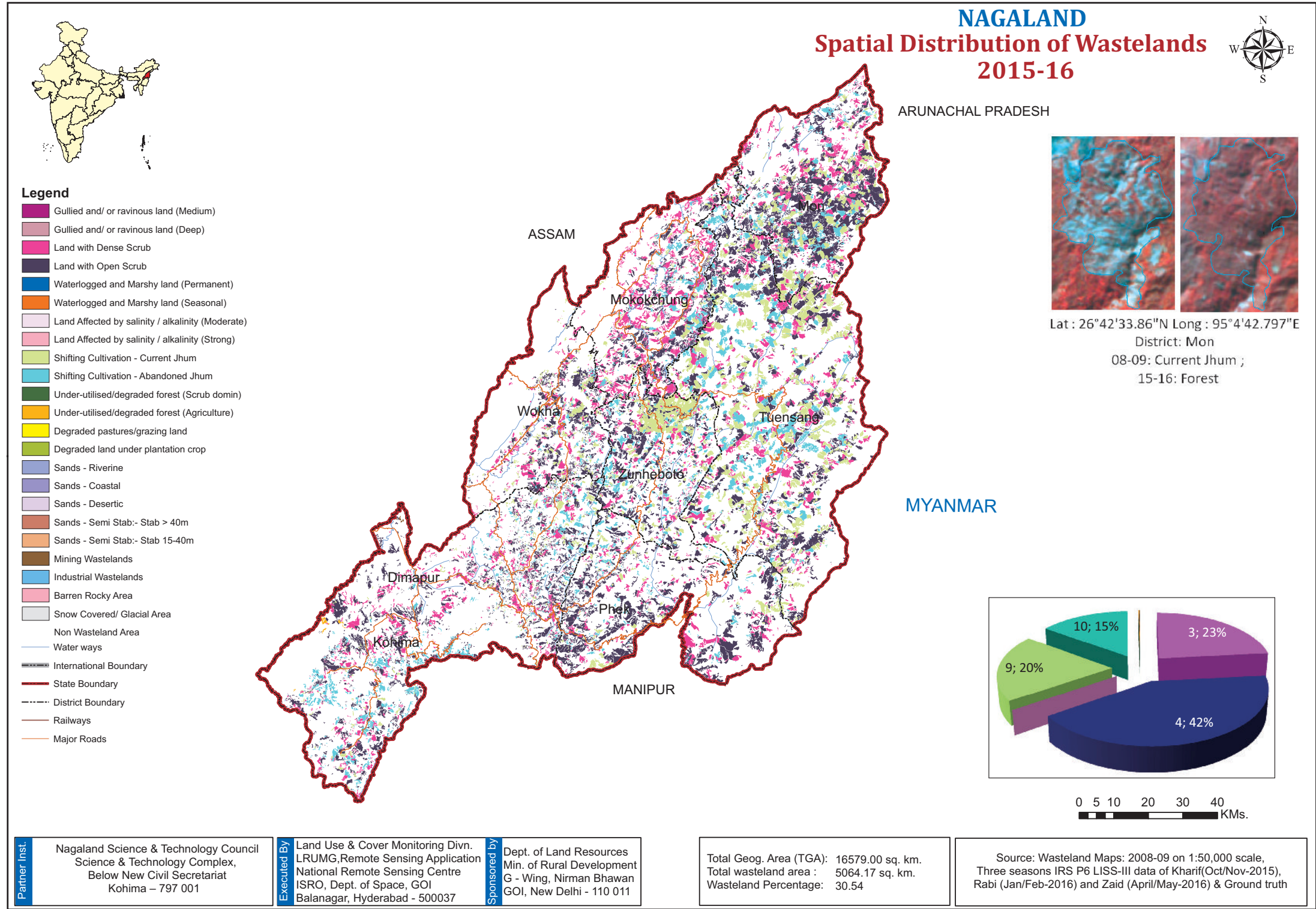
TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Net Increase in **wastelands area** by **41.69 sq. km.** is observed in the state
- Decrease in **shifting cultivation (current)** area by 435.20sq. km.; increase in **dense scrub area** by 430.90 sq. km.
- 306.17 sq. km. of wastelands area converted into forest dense / open contributed primarily by **land with dense scrub** (186.00 sq. km.); **land with open scrub** (65.65 sq. km.) and **shifting cultivation (abandoned)** 12.11 sq. km.
- Mokakchung district has observed decrease in Wastelands area by 133.54sq. km. with maximum decrease in **Shifting cultivation - Current and Abandoned** (337.80 sq. km.)
- Mon district has witnessed decrease in wastelands area by 37.55 sq. km. which is mainly due to reduction in Shifting cultivation – current & abandoned by 89.51 sq. km.
- Zunheboto district has an increase in wastelands area by 101.02 sq. km. due to increase in 76.06 sq.km. area in Shifting cultivation - current and abandoned.
- Tuensang district has an increase in wastelands area by 30.28 sq. km. with maximum increase in **land with open scrub** by 129.44 sq. km.



NAGALAND

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16								WL 2008-09 becoming non WL in 2015-16						2008-09	
	3	4	9	10	11	12	20	22	24	26	28	29	30	32	Category Total	Grand Total
3	602.92	1.54	91.64				0.10		2.09	0.27	0.42	186.00	0.00		884.97	5105.86
4	459.79	1128.15	227.10	1.07			0.55		5.33	4.87		65.65	1.68		1894.19	
9	116.84	447.57	198.96	588.99					9.44	10.29		42.42			1414.53	
10	136.32	500.45	161.47	90.59					1.96	0.07		12.11		0.11	903.09	
11					0.01							0.00			0.01	
12						1.59								0.04	1.63	
20							3.92								3.92	
22								3.53							3.53	
999			300.16	0.55			0.36									
Category Total (2015-16)	1315.87	2077.72	979.33	681.21	0.01	1.59	4.92	3.53	18.82	15.51	0.42	306.17	1.69	0.15		
Grand Total (2015-16)	5064.17															

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3	188.78	508		
4	77.53	251		
9	62.16	218	300.16	668
10	14.25	46	0.55	2
11		2		
12	0.04	1		
20			0.36	1
22				
Total	342.77	1026	301.07	671

Wastelands becoming Non-wastelands (-) 342.77
 Non-wastelands becoming Wastelands (+) 301.07
 NET Change (2015 - 16)- (2008 - 09) (-) 41.688

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	24. Built-up
2. Gullied and/ or ravinous land (Deep)	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	25. Industrial Area
3. Land with Dense Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	26. Cropland
4. Land with Open Scrub	13. Degraded pastures/ grazing land	21. Industrial wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	15. Sands-Riverine	23. Snow covered /Glacial area	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	16. Sands-Coastal	999. Non-Wasteland Area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)			31. Grasslands
			32. Waterbodies

Nagaland

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Dimapur	2008-09	--	--	118.95	147.36	--	--	--	--	17.11	17.45	--
	2015-16	--	--	124.63	155.09	--	--	--	--	5.65	10.93	--
	Change	--	--	5.68	7.73	--	--	--	--	-11.46	-6.52	--
Kohima	2008-09	--	--	40.71	68.27	--	--	--	--	67.51	30.49	0.01
	2015-16	--	--	50.78	95.25	--	--	--	--	14.94	47.13	0.01
	Change	--	--	10.07	26.98	--	--	--	--	-52.57	16.64	0.00
Mokokchung	2008-09	--	--	204.29	331.37	--	--	--	--	239.99	327.82	0.00
	2015-16	--	--	449.02	326.85	--	--	--	--	75.44	118.57	--
	Change	--	--	244.73	-4.53	--	--	--	--	-164.55	-209.25	--
Mon	2008-09	--	--	78.95	353.90	--	--	--	--	217.46	114.05	--
	2015-16	--	--	142.01	342.73	--	--	--	--	174.37	67.63	--
	Change	--	--	63.06	-11.17	--	--	--	--	-43.09	-46.42	--
Phek	2008-09	--	--	72.19	327.36	--	--	--	--	54.02	91.67	--
	2015-16	--	--	106.35	355.66	--	--	--	--	48.06	37.07	--
	Change	--	--	34.16	28.31	--	--	--	--	-5.96	-54.60	--
Tuensang	2008-09	--	--	239.13	341.70	--	--	--	--	635.27	270.00	--
	2015-16	--	--	284.72	471.14	--	--	--	--	467.48	292.19	--
	Change	--	--	45.59	129.44	--	--	--	--	-167.80	22.18	--
Wokha	2008-09	--	--	85.94	137.18	--	--	--	--	74.17	6.61	--
	2015-16	--	--	85.98	146.56	--	--	--	--	52.68	18.35	--
	Change	--	--	0.05	9.38	--	--	--	--	-21.49	11.74	--
Zunheboto	2008-09	--	--	44.81	187.05	--	--	--	--	108.99	45.01	--
	2015-16	--	--	72.38	184.44	--	--	--	--	140.71	89.34	--
	Change	--	--	27.57	-2.61	--	--	--	--	31.72	44.34	--
Grand Total	2008-09	--	--	884.97	1894.19	--	--	--	--	1414.53	903.09	0.01
	2015-16	--	--	1315.87	2077.72	--	--	--	--	979.33	681.21	0.01
	Change	--	--	430.90	183.53	--	--	--	--	-435.20	-221.88	0.00

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

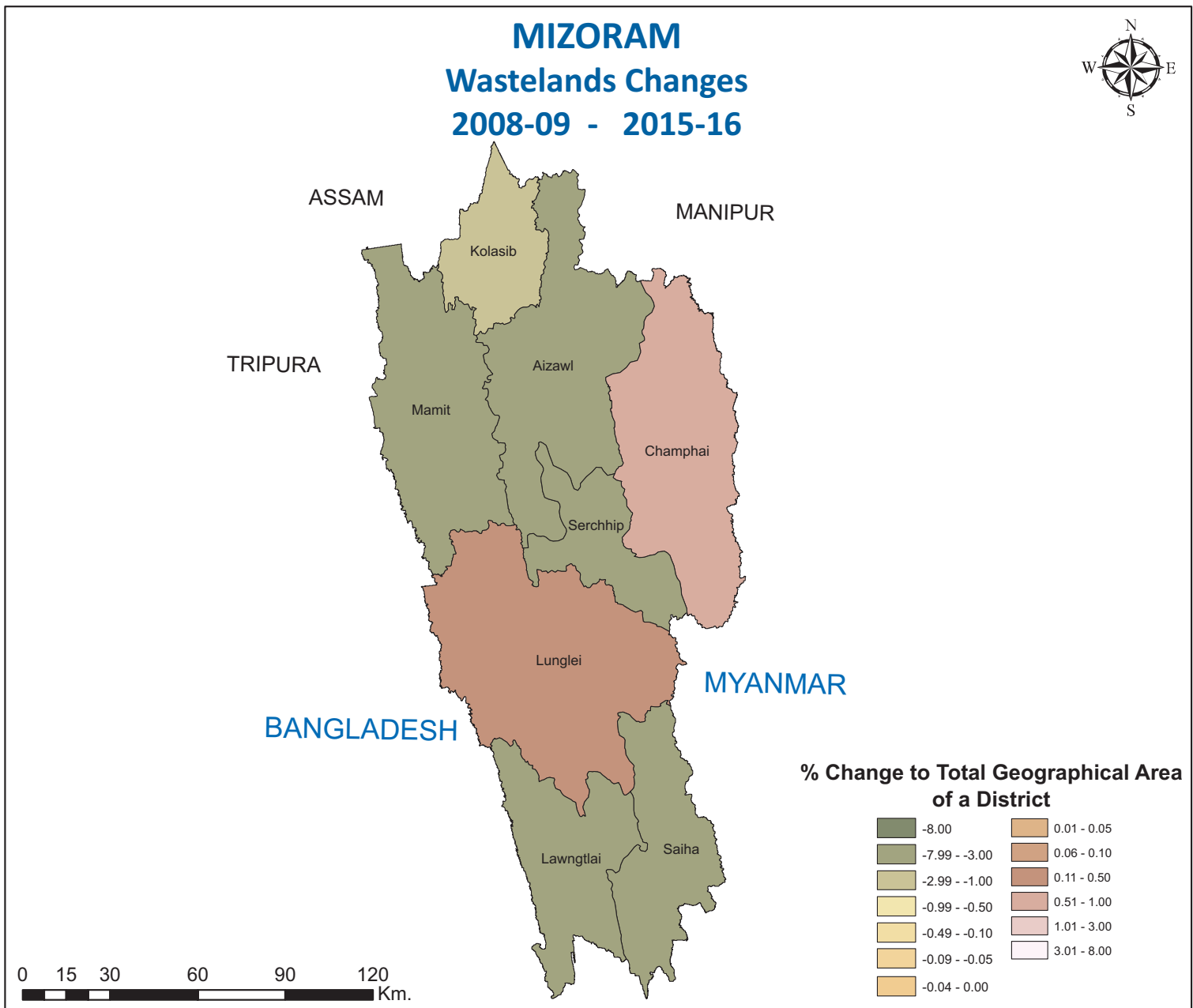
Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
0.04	--	--	--	--	--	--	--	2.09	--	0.21	--	303.22	1786
0.00	--	--	--	--	--	--	--	2.09	--	0.21	--	298.61	
-0.04	--	--	--	--	--	--	--	0.00	--	0.00	--	-4.61	
1.59	--	--	--	--	--	--	--	0.14	--	0.35	--	209.06	950
1.59	--	--	--	--	--	--	--	0.14	--	0.35	--	210.18	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	1.12	
--	--	--	--	--	--	--	--	0.12	--	--	--	1103.60	3091
--	--	--	--	--	--	--	--	0.19	--	--	--	970.06	
--	--	--	--	--	--	--	--	0.06	--	--	--	-133.54	
--	--	--	--	--	--	--	--	0.00	--	--	--	764.36	1615
--	--	--	--	--	--	--	--	0.08	--	--	--	726.81	
--	--	--	--	--	--	--	--	0.08	--	--	--	-37.55	
--	--	--	--	--	--	--	--	--	--	1.44	--	546.68	2026
--	--	--	--	--	--	--	--	--	--	1.44	--	548.59	
--	--	--	--	--	--	--	--	--	--	0.00	--	1.91	
--	--	--	--	--	--	--	--	1.56	--	1.53	--	1489.19	4228
--	--	--	--	--	--	--	--	2.42	--	1.53	--	1519.47	
--	--	--	--	--	--	--	--	0.87	--	0.00	--	30.28	
0.00	--	--	--	--	--	--	--	--	--	--	--	303.89	1628
0.00	--	--	--	--	--	--	--	--	--	--	--	303.58	
0.00	--	--	--	--	--	--	--	--	--	--	--	-0.32	
--	--	--	--	--	--	--	--	--	--	--	--	385.85	1255
--	--	--	--	--	--	--	--	--	--	--	--	486.87	
--	--	--	--	--	--	--	--	--	--	--	--	101.02	
1.63	--	--	--	--	--	--	--	3.92	--	3.53	--	5105.86	16579
1.59	--	--	--	--	--	--	--	4.92	--	3.53	--	5064.17	
-0.04	--	--	--	--	--	--	--	1.00	--	0.00	--	-41.69	

TGA - Total Geographical Area

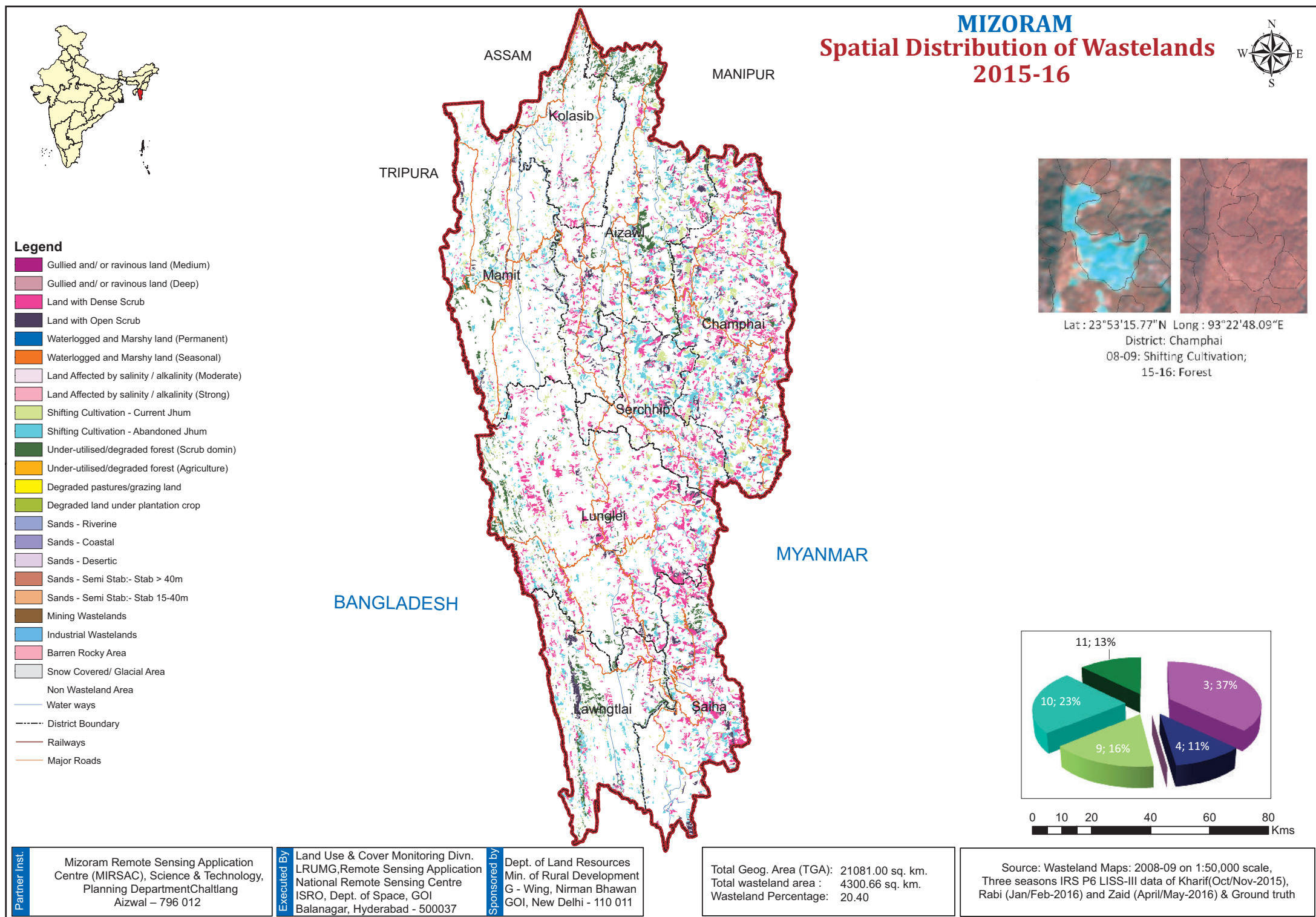
13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal
17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area



Salient Features

- Decrease of wastelands area by 576.90 sq. km. is observed in the state.
- Reduction of 638.78 sq. km. area under **land with dense scrub**; increase in area under **shifting cultivation-current Jhum** by 89.47 sq. km.
- An area of 1730.11 sq. km. converted into dense forest from **land with dense scrub** and **Shifting Cultivation- abandoned**.
- Maximum decrease of wastelands area is in Mamit district (175.20 sq. km.) and which is mainly contributed by **land with dense scrub** (198.15 sq. km.).
- Saiha district witnessed a reduction under wastelands area by 152.09 sq. km. mainly due to reduction in **land with dense scrub** by 146.36 sq. km.
- Wastelands area is increased by 29.16 sq. km. in Champai district. **Land with dense scrub** contributed maximum increase of 50.65 sq. km.



MIZORAM

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16					WL 2008-09 becoming non WL in 2015-16	2008-09	
	3	4	9	10	11	29	Category Total	Grand Total
1	1233.26	18.37	91.98	135.46		746.54	2225.61	4877.55
2	47.38	301.85	14.98	10.82		85.76	460.80	
3	54.67	14.80	52.66	185.52		294.43	602.08	
4	166.68	39.98	76.01	152.79		598.83	1034.28	
6			12.41	0.92	536.90	4.55	554.78	
999	84.84	91.88	443.51	525.89	7.10			
Category Total (2015-16)	1586.84	466.88	691.55	1011.39	544.00	1730.11		
Grand Total (2015-16)	4300.66							

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3	746.54	1208	84.84	174
4	85.76	197	91.88	204
9	294.43	1237	443.51	2521
10	598.83	2038	525.89	1440
11	4.55	10	7.10	17
Total	1730.11	4690	1153.22	4356

Wastelands becoming Non-wastelands (-) 1730.11
 Non-wastelands becoming Wastelands (+) 1153.22
 NET Change (2015 - 16) - (2008 - 09) (-) 576.90

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes		Non-Wasteland Classes	
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Mizoram

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Aizawl	2008-09	--	--	279.18	88.34	--	--	--	--	106.33	245.05	169.28
	2015-16	--	--	208.76	98.68	--	--	--	--	124.58	188.01	160.71
	Change	--	--	-70.41	10.33	--	--	--	--	18.25	-57.04	-8.57
Champhai	2008-09	--	--	345.12	130.73	--	--	--	--	193.41	280.06	25.42
	2015-16	--	--	395.76	118.68	--	--	--	--	215.37	248.26	25.82
	Change	--	--	50.65	-12.05	--	--	--	--	21.96	-31.80	0.40
Kolasib	2008-09	--	--	80.34	2.51	--	--	--	--	2.57	42.61	62.85
	2015-16	--	--	37.21	15.06	--	--	--	--	17.88	31.70	61.64
	Change	--	--	-43.13	12.55	--	--	--	--	15.30	-10.91	-1.21
Lawngtlai	2008-09	--	--	199.13	21.92	--	--	--	--	52.70	71.41	82.69
	2015-16	--	--	92.30	51.16	--	--	--	--	46.18	82.32	80.77
	Change	--	--	-106.83	29.24	--	--	--	--	-6.52	10.92	-1.92
Lunglei	2008-09	--	--	497.19	41.69	--	--	--	--	84.09	80.80	110.53
	2015-16	--	--	407.92	46.98	--	--	--	--	111.00	151.34	112.77
	Change	--	--	-89.26	5.28	--	--	--	--	26.91	70.54	2.24
Mamit	2008-09	--	--	253.30	52.15	--	--	--	--	58.67	83.59	75.54
	2015-16	--	--	55.15	35.17	--	--	--	--	75.36	107.20	75.17
	Change	--	--	-198.15	-16.98	--	--	--	--	16.69	23.61	-0.36
Saiha	2008-09	--	--	379.08	68.60	--	--	--	--	29.84	96.15	24.38
	2015-16	--	--	232.73	54.77	--	--	--	--	34.93	100.31	23.22
	Change	--	--	-146.36	-13.83	--	--	--	--	5.10	4.15	-1.16
Serchhip	2008-09	--	--	192.28	54.84	--	--	--	--	74.47	134.62	4.11
	2015-16	--	--	156.99	46.38	--	--	--	--	66.26	102.25	3.90
	Change	--	--	-35.28	-8.46	--	--	--	--	-8.21	-32.36	-0.20
Grand Total	2008-09	--	--	2225.61	460.80	--	--	--	--	602.08	1034.28	554.78
	2015-16	--	--	1586.84	466.88	--	--	--	--	691.55	1011.39	544.00
	Change	--	--	-638.78	6.08	--	--	--	--	89.47	-22.90	-10.78

Note: “--” Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

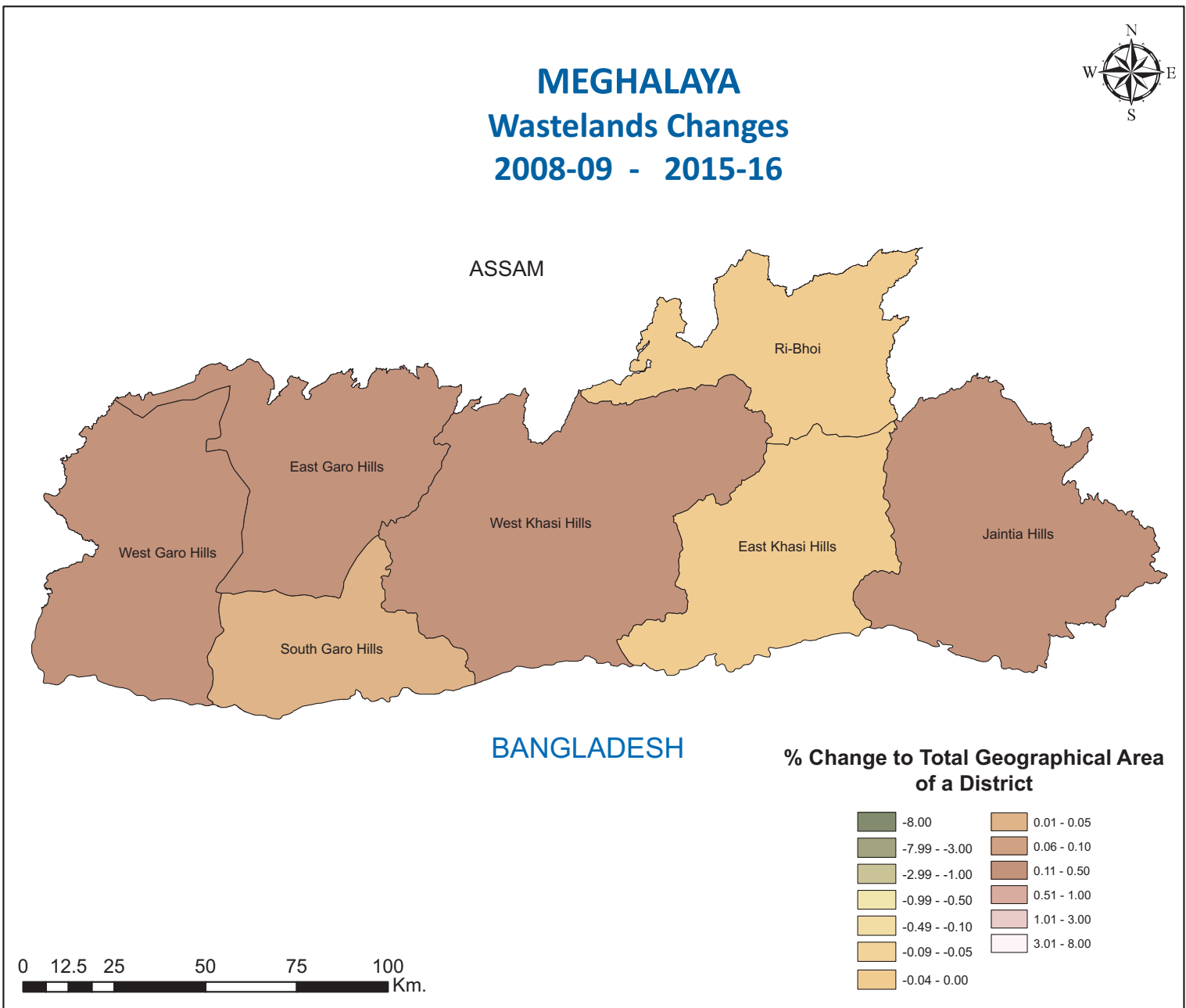
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	--	--	--	--	888.18	3576
--	--	--	--	--	--	--	--	--	--	--	--	780.74	
--	--	--	--	--	--	--	--	--	--	--	--	-107.44	
--	--	--	--	--	--	--	--	--	--	--	--	974.74	3185
--	--	--	--	--	--	--	--	--	--	--	--	1003.90	
--	--	--	--	--	--	--	--	--	--	--	--	29.16	
--	--	--	--	--	--	--	--	--	--	--	--	190.88	1382
--	--	--	--	--	--	--	--	--	--	--	--	163.49	
--	--	--	--	--	--	--	--	--	--	--	--	-27.40	
--	--	--	--	--	--	--	--	--	--	--	--	427.84	1991
--	--	--	--	--	--	--	--	--	--	--	--	352.73	
--	--	--	--	--	--	--	--	--	--	--	--	-75.11	
--	--	--	--	--	--	--	--	--	--	--	--	814.30	4536
--	--	--	--	--	--	--	--	--	--	--	--	830.00	
--	--	--	--	--	--	--	--	--	--	--	--	15.70	
--	--	--	--	--	--	--	--	--	--	--	--	523.25	3025
--	--	--	--	--	--	--	--	--	--	--	--	348.05	
--	--	--	--	--	--	--	--	--	--	--	--	-175.20	
--	--	--	--	--	--	--	--	--	--	--	--	598.05	1965
--	--	--	--	--	--	--	--	--	--	--	--	445.96	
--	--	--	--	--	--	--	--	--	--	--	--	-152.09	
--	--	--	--	--	--	--	--	--	--	--	--	460.31	1421
--	--	--	--	--	--	--	--	--	--	--	--	375.79	
--	--	--	--	--	--	--	--	--	--	--	--	-84.52	
--	--	--	--	--	--	--	--	--	--	--	--	4877.55	21081
--	--	--	--	--	--	--	--	--	--	--	--	4300.66	
--	--	--	--	--	--	--	--	--	--	--	--	-576.90	

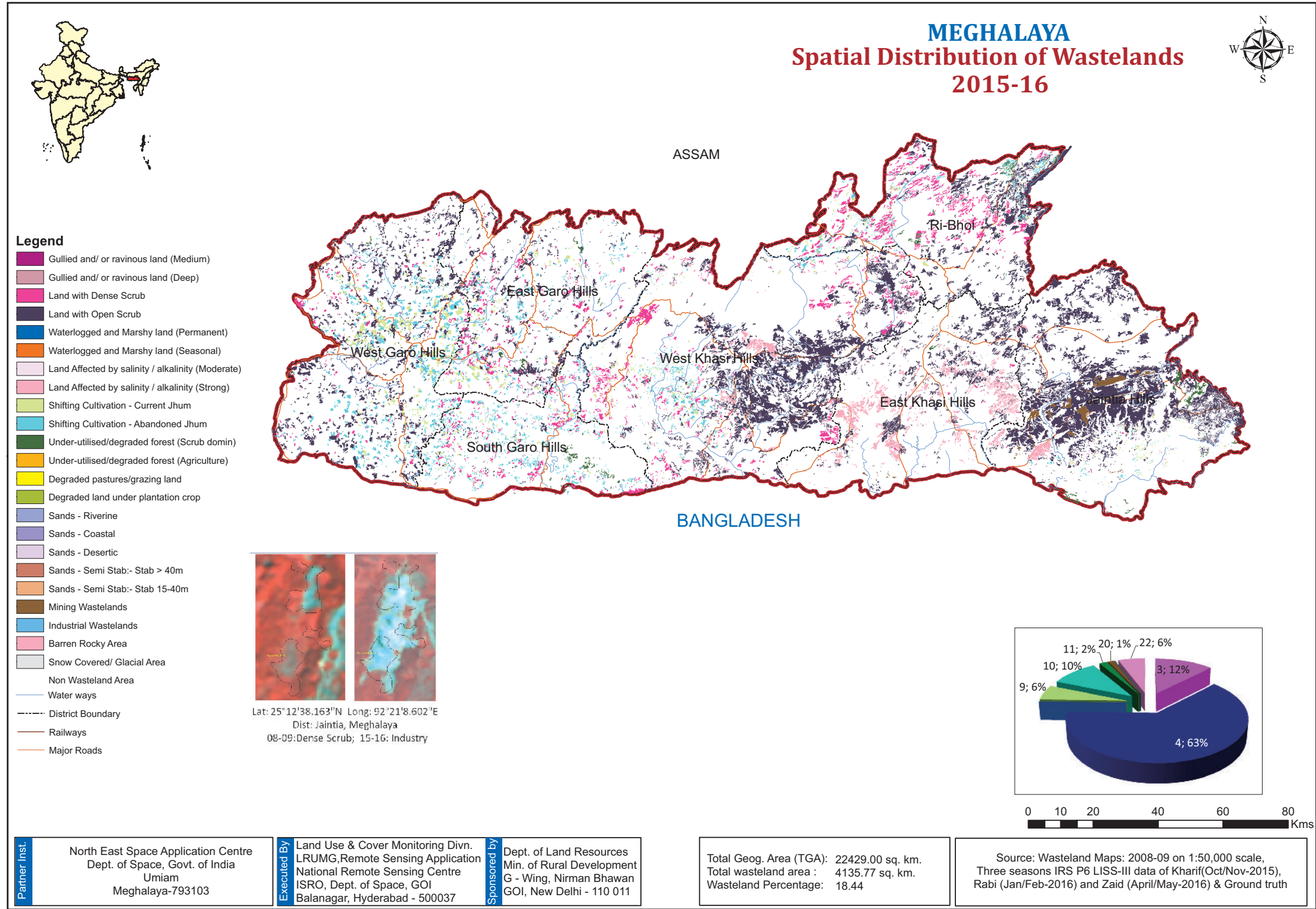
TGA - Total Geographical Area

- | | |
|---|----------------------------------|
| 13. Degraded pastures/ grazing land | 19. Sands-Semi Stab.-Stab 15-40m |
| 14. Degraded land under plantation crop | 20. Mining Wastelands |
| 15. Sands-Riverine | 21. Industrial wastelands |
| 16. Sands-Coastal | 22. Barren Rocky/Stony waste |
| 17. Sands-Desertic | 23. Snow covered /Glacial area |
| 18. Sands-Semi Stab.-Stab>40m | |



Salient Features

- A net increase of Wastelands by 59.33 sq. km. is observed during this period.
- Maximum decrease is observed in **land with dense scrub** by 58.52 sq. km.; followed by **land with open scrub** by 35.93 sq. km.;
- Maximum increase is observed in **shifting cultivation-abandoned Jhum** by 147.27 sq. km.
- **Mining wastelands** area witnessed increase of 53.86 sq. km.
- 41.88 sq. km. of wastelands area converted into forest which has come from **land with open and dense scrub** category.; whereas 21.94 sq. km. is brought under built up during this period,.
- In Rhibhoi district, wastelands area decreased by 0.95 sq. km.; **land with open scrub** has decreased by 31.61 sq. km.; **shifting cultivation-current Jhum** decreased by 26.71 sq. km.
- East Khasi Hills district witnessed decrease in area under wastelands from 387.16 sq. km. to 386.34 sq. km. **Barren rocky** area decreased by 2.26 sq. km.
- West Khasi Hills district witnessed increase in wastelands area by 18.50 sq. km. this is mainly due to **land with open scrub** which has increased by 82.10 sq. km.
- In West Garo Hills district, wastelands area increased by 16.86 sq. km. and **shifting cultivation – abandoned Jhum** increased by 44.56 sq. km.



MEGHALAYA
Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16									WL 2008-09 becoming non_WL in 2015-16						2008-09	
	3	4	6	9	10	11	15	20	22	24	25	26	27	28	29	Category Total	Grand Total
3	418.91	123.39		8.32						0.62		3.46	0.33	0.13	13.34	568.50	4076.43
4	91.08	2458.08		3.80				50.38	1.44	18.28	2.62	6.44	1.51	0.41	14.09	2648.12	
6			0.01													0.01	
9		1.43		98.80	178.68										2.82	281.73	
10		0.36		24.15	241.94				0.26			0.54			8.16	275.42	
11				0.07		64.61				0.19					3.46	68.32	
12																0.00	
15							0.15									0.15	
20								0.63								0.63	
22									230.64	2.86	0.04					233.55	
999		28.93		102.74	2.06			3.48	1.44								
Category Total (2015-16)	509.98	2612.19	0.01	237.87	422.68	64.61	0.15	54.49	233.78	21.94	2.67	10.44	1.84	0.54	41.88		
Grand Total (2015-16)	4135.77																

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3	17.88	67		
4	43.35	118	28.93	83
6				
9	2.82	21	102.74	662
10	8.70	51	2.06	5
11	3.65	17		
12				
15				
20			3.48	18
22	2.90	11	1.44	14
Total	79.31	285	138.65	782

Wastelands becoming Non-wastelands (-) 79.31
Non-wastelands becoming Wastelands (+) 138.65
NET Change (2015 - 16)- (2008 - 09) (+) 59.33

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
2008 - 09 Wastelands statistics are revised version.
Area under category total is rounded to nearest decimal.

Wasteland Classes	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	24. Built-up
2. Gullied and/ or ravinous land (Deep)	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	25. Industrial Area
3. Land with Dense Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	26. Cropland
4. Land with Open Scrub	13. Degraded pastures/ grazing land	21. Industrial wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	15. Sands-Riverine	23. Snow covered /Glacial area	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	16. Sands-Coastal	999. Non-Wasteland Area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)			31. Grasslands
			32. Waterbodies

Meghalaya

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
East Garo Hills	2008-09	--	--	65.89	159.02	--	0.01	--	--	24.38	39.76	7.67
	2015-16	--	--	63.22	151.10	--	0.01	--	--	34.56	51.24	7.67
	Change	--	--	-2.67	-7.91	--	0.00	--	--	10.18	11.48	0.00
East Khasi Hills	2008-09	--	--	6.94	213.18	--	--	--	--	--	--	2.10
	2015-16	--	--	7.76	213.16	--	--	--	--	0.12	--	2.08
	Change	--	--	0.83	-0.02	--	--	--	--	0.12	--	-0.02
Jaintia Hills	2008-09	--	--	0.18	917.65	--	--	--	--	13.71	0.09	29.41
	2015-16	--	--	3.71	866.61	--	--	--	--	13.95	9.82	27.20
	Change	--	--	3.52	-51.04	--	--	--	--	0.25	9.72	-2.21
Ri-Bhoi	2008-09	--	--	146.23	291.23	--	--	--	--	50.93	9.29	12.16
	2015-16	--	--	166.18	259.62	--	--	--	--	24.21	46.84	12.03
	Change	--	--	19.94	-31.61	--	--	--	--	-26.71	37.56	-0.12
South Garo Hills	2008-09	--	--	69.94	24.53	--	--	--	--	36.88	71.79	15.00
	2015-16	--	--	68.88	23.18	--	--	--	--	18.23	94.52	13.67
	Change	--	--	-1.06	-1.35	--	--	--	--	-18.65	22.74	-1.33
West Garo Hills	2008-09	--	--	25.25	393.34	--	--	--	--	127.88	124.04	1.96
	2015-16	--	--	39.19	367.25	--	--	--	--	112.07	168.61	1.96
	Change	--	--	13.94	-26.09	--	--	--	--	-15.81	44.56	0.00
West Khasi Hills	2008-09	--	--	254.07	649.18	--	--	--	--	27.97	30.44	0.02
	2015-16	--	--	161.04	731.27	--	--	--	--	34.73	51.65	--
	Change	--	--	-93.03	82.10	--	--	--	--	6.76	21.21	-0.02
Grand Total	2008-09	--	--	568.50	2648.12	--	0.01	--	--	281.73	275.42	68.32
	2015-16	--	--	509.98	2612.19	--	0.01	--	--	237.87	422.68	64.61
	Change	--	--	-58.52	-35.93	--	0.00	--	--	-43.86	147.27	-3.71

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

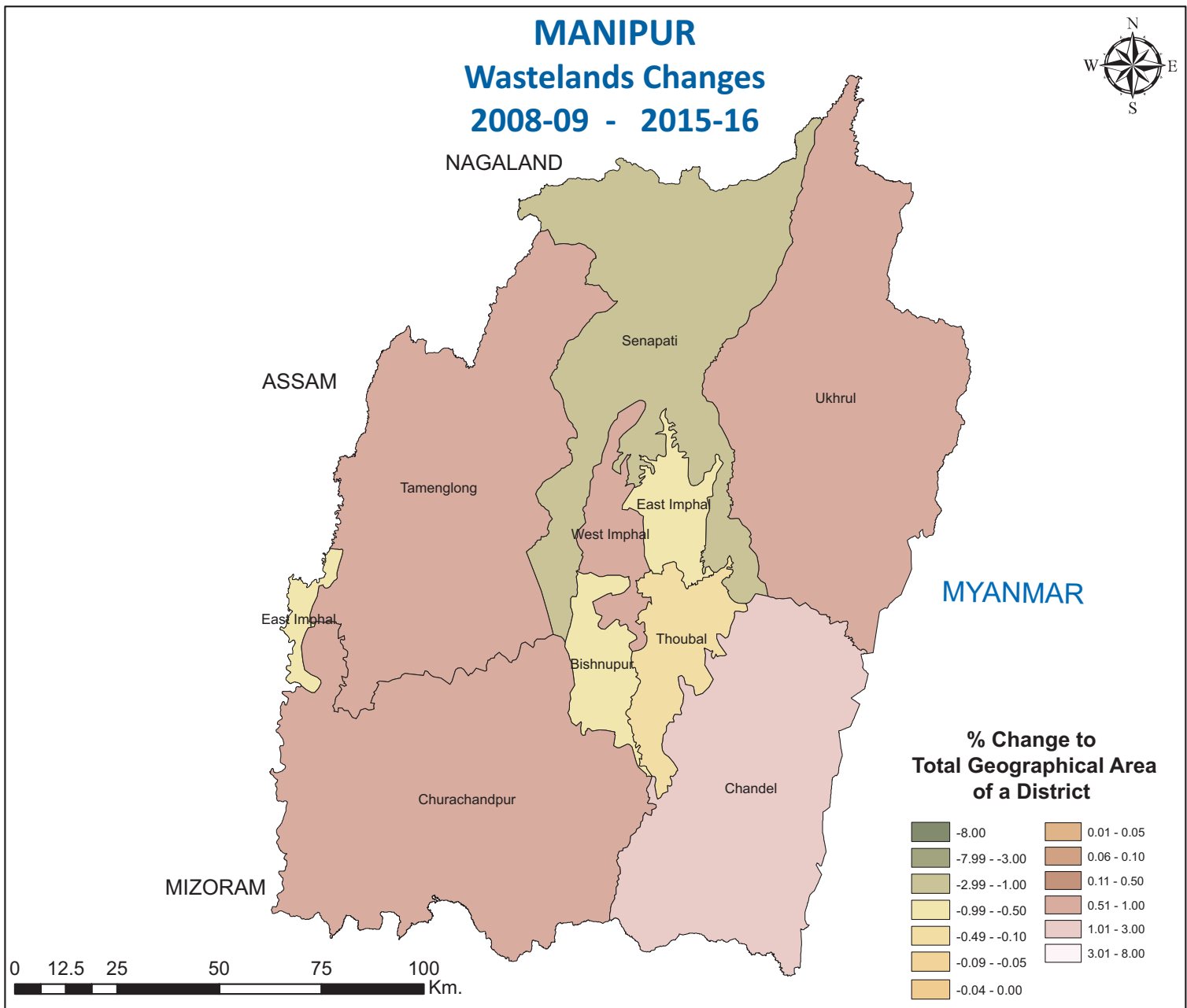
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	--	--	--	--	296.71	2603
--	--	--	--	--	--	--	--	--	--	--	--	307.79	
--	--	--	--	--	--	--	--	--	--	--	--	11.08	
--	--	--	0.15	--	--	--	--	0.63	--	164.15	--	387.16	2748
--	--	--	0.15	--	--	--	--	1.17	--	161.89	--	386.34	
--	--	--	0.00	--	--	--	--	0.54	--	-2.26	--	-0.82	
--	--	--	--	--	--	--	--	--	--	26.65	--	987.69	3819
--	--	--	--	--	--	--	--	52.73	--	27.99	--	1002.01	
--	--	--	--	--	--	--	--	52.73	--	1.34	--	14.31	
0.00	--	--	--	--	--	--	--	--	--	--	--	509.83	2448
0.00	--	--	--	--	--	--	--	--	--	--	--	508.88	
0.00	--	--	--	--	--	--	--	--	--	--	--	-0.95	
--	--	--	--	--	--	--	--	--	--	0.32	--	218.46	1850
--	--	--	--	--	--	--	--	--	--	0.32	--	218.81	
--	--	--	--	--	--	--	--	--	--	0.00	--	0.35	
--	--	--	--	--	--	--	--	--	--	--	--	672.48	3714
--	--	--	--	--	--	--	--	--	--	0.26	--	689.34	
--	--	--	--	--	--	--	--	--	--	0.26	--	16.86	
--	--	--	--	--	--	--	--	--	--	42.43	--	1004.10	5247
--	--	--	--	--	--	--	--	0.59	--	43.33	--	1022.60	
--	--	--	--	--	--	--	--	0.59	--	0.90	--	18.50	
0.00	--	--	0.15	--	--	--	--	0.63	--	233.55	--	4076.43	22429
0.00	--	--	0.15	--	--	--	--	54.49	--	233.78	--	4135.77	
0.00	--	--	0.00	--	--	--	--	53.86	--	0.24	--	59.33	

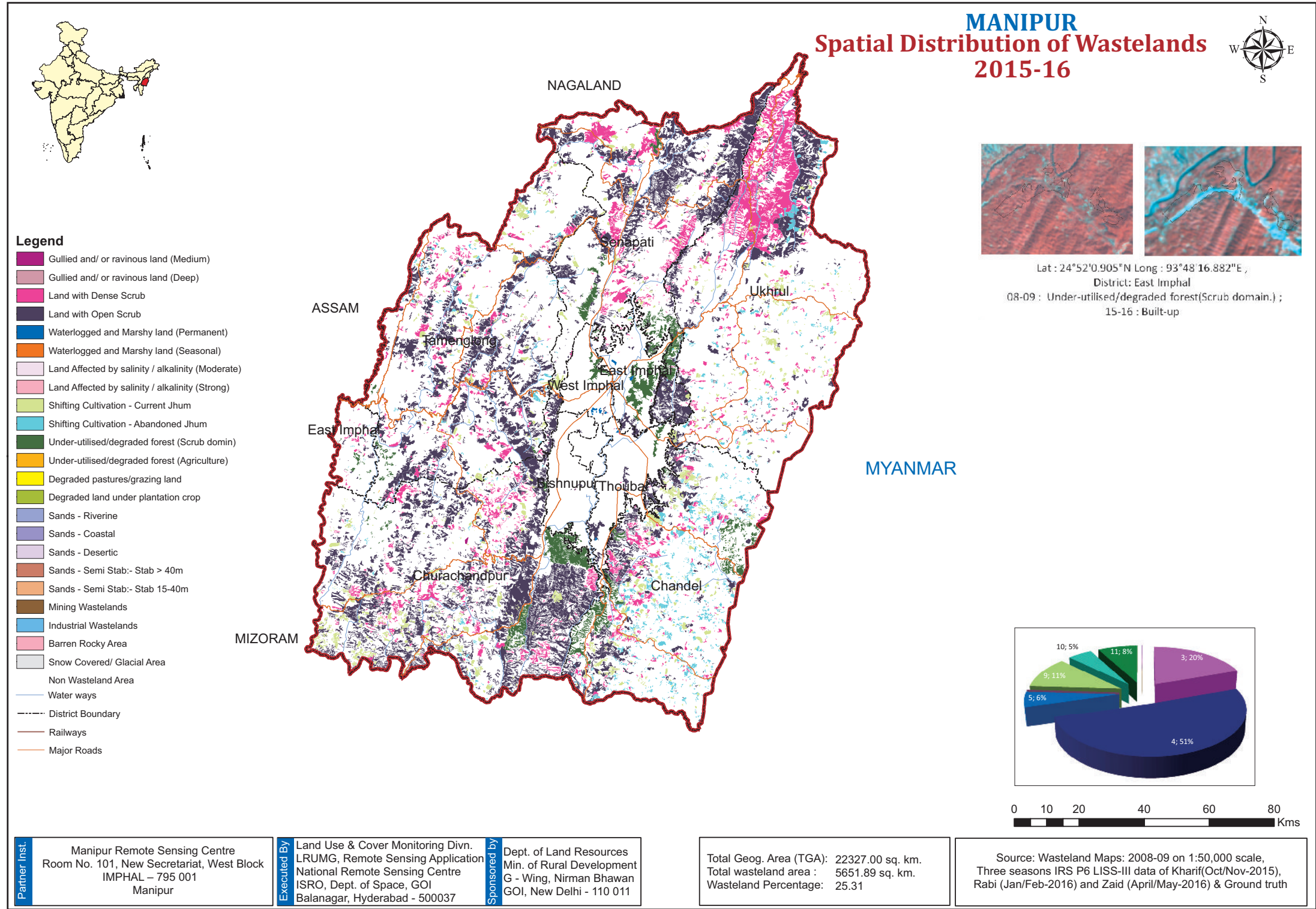
TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Increase of wastelands area by 86.96 sq. km. is observed in the state.
- **land with dense scrub** is decreased by 1024.95 sq. km.; followed by **Under utilized/degraded forest (Scrub domin.)** by 13.83sq. km.;
- An area of 53.75sq. km. of wasteland has been converted to crop area during this period, out of this 36.08sq. km. is contributed by **land with open scrub**.
- Senapati district witnessed maximum decrease by 36 sq. km. Maximum contribution is from **land with dense scrub** from 172.99 sq. km.
- Decrease in net wastelands area in East Imphal is 5.96 sq. km. mainly contributed by **land with dense scrub** (4.30 sq. km.) and **Under-utilized/degraded forest (Scrub domin.)** by 4.04 sq. km.
- Chandel district witnessed maximum net increase in wastelands area by 47.75 sq. km. and maximum increase in **Land with open scrub** by 130.18 sq. km.



MANIPUR

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16										WL 2008-09 becoming non WL in 2015-16					2008-09	
	1	3	4	5	9	10	11	12	13	22	24	26	28	29	30	Category Total	Grand Total
3		1124.66	1024.04		23.68	0.17				1.39	5.56	7.72	2.06	46.77		2236.07	5564.90
4		78.03	2049.31		94.98	2.24				0.07	6.98	36.08	0.15	17.01	0.04	2284.89	
5				1.57												1.57	
9		0.32	5.01		197.34	92.25					1.07	0.35		0.33		296.68	
10		4.82	27.28		0.21	203.03					1.83			6.36		243.53	
11					0.42		486.00				3.68	7.46		1.59	0.69	499.83	
12								0.21				2.13				2.34	
999	1.29	3.28	39.47	5.96	183.33	0.96			0.37	0.17							
Category Total (2015-16)	1.29	1211.12	3145.10	7.53	499.96	298.65	486.00	0.21	0.37	1.63	19.12	53.75	2.22	72.06	0.73		
Grand Total (2015-16)	5651.89																

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1			1.29	1
3	62.12	212	3.28	4
4	60.27	149	39.47	161
5			5.96	2
9	1.75	19	183.33	297
10	8.19	33	0.96	5
11	13.42	44		
12	2.13	2		
13			0.37	6
22			0.17	4
Total	147.87	459	234.84	480

Wastelands becoming Non-wastelands (-) 147.87
 Non-wastelands becoming Wastelands (+) 234.84
 NET Change (2015 - 16) - (2008 - 09) (+) 86.96

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes				Non-Wasteland Classes			
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic		24. Built-up			
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m		25. Industrial Area			
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m		26. Cropland			
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands		27. Fallow Land			
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands		28. Plantation			
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste		29. Forest-Dense/Open			
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area		30. Forest Plantation			
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area		31. Grasslands			
				32. Waterbodies			

Manipur

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Bishnupur	2008-09	--	--	1.30	6.36	--	--	--	--	0.03		5.48
	2015-16	--	--	0.17	4.76	--	--	--	--	0.02	0.03	5.22
	Change	--	--	-1.14	-1.60	--	--	--	--	-0.01	0.03	-0.27
Chandel	2008-09	--	--	254.51	110.08	--	--	--	--	73.33	178.60	122.63
	2015-16	--	--	130.29	240.26	--	--	--	--	125.62	169.14	121.60
	Change	--	--	-124.22	130.18	--	--	--	--	52.29	-9.46	-1.04
Churachandpur	2008-09	--	--	591.23	716.31	--	--	--	--	67.23	0.53	130.64
	2015-16	1.29	--	189.47	1057.43	--	--	--	--	143.78	15.32	129.00
	Change	1.29	--	-401.76	341.12	--	--	--	--	76.55	14.79	-1.64
East Imphal	2008-09	--	--	7.81	18.14	1.57	--	--	--	0.46		94.32
	2015-16	--	--	3.52	18.95	3.14	--	--	--	0.40	0.06	90.28
	Change	--	--	-4.30	0.81	1.57	--	--	--	-0.06	0.06	-4.04
Senapati	2008-09	--	--	371.66	617.55	--	--	--	--	19.96	9.58	103.46
	2015-16	--	--	198.66	716.42	--	--	--	--	62.85	12.70	97.61
	Change	--	--	-172.99	98.87	--	--	--	--	42.89	3.12	-5.85
Tamenglong	2008-09	--	--	315.28	586.05	--	--	--	--	41.22	8.50	12.66
	2015-16	--	--	161.99	702.91	--	--	--	--	80.87	27.86	12.04
	Change	--	--	-153.29	116.85	--	--	--	--	39.65	19.36	-0.62
Thoubal	2008-09	--	--	15.69	52.65	--	--	--	--	1.87	1.01	14.26
	2015-16	--	--	9.45	57.42	0.91	--	--	--	1.69	1.34	14.06
	Change	--	--	-6.24	4.78	0.91	--	--	--	-0.18	0.33	-0.19
Ukhrul	2008-09	--	--	668.15	173.53	--	--	--	--	92.57	45.30	0.13
	2015-16	--	--	510.62	340.41	--	--	--	--	84.07	72.20	0.13
	Change	--	--	-157.52	166.88	--	--	--	--	-8.50	26.90	0.00
West Imphal	2008-09	--	--	10.43	4.22	--	--	--	--		--	16.25
	2015-16	--	--	6.94	6.55	3.49	--	--	--	0.66	--	16.06
	Change	--	--	-3.49	2.33	3.49	--	--	--	0.66	--	-0.19
Grand Total	2008-09	--	--	2236.07	2284.89	1.57	--	--	--	296.68	243.53	499.83
	2015-16	1.29	--	1211.12	3145.10	7.53	--	--	--	499.96	298.65	486.00
	Change	1.29	--	-1024.95	860.22	5.96	--	--	--	203.28	55.12	-13.84

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

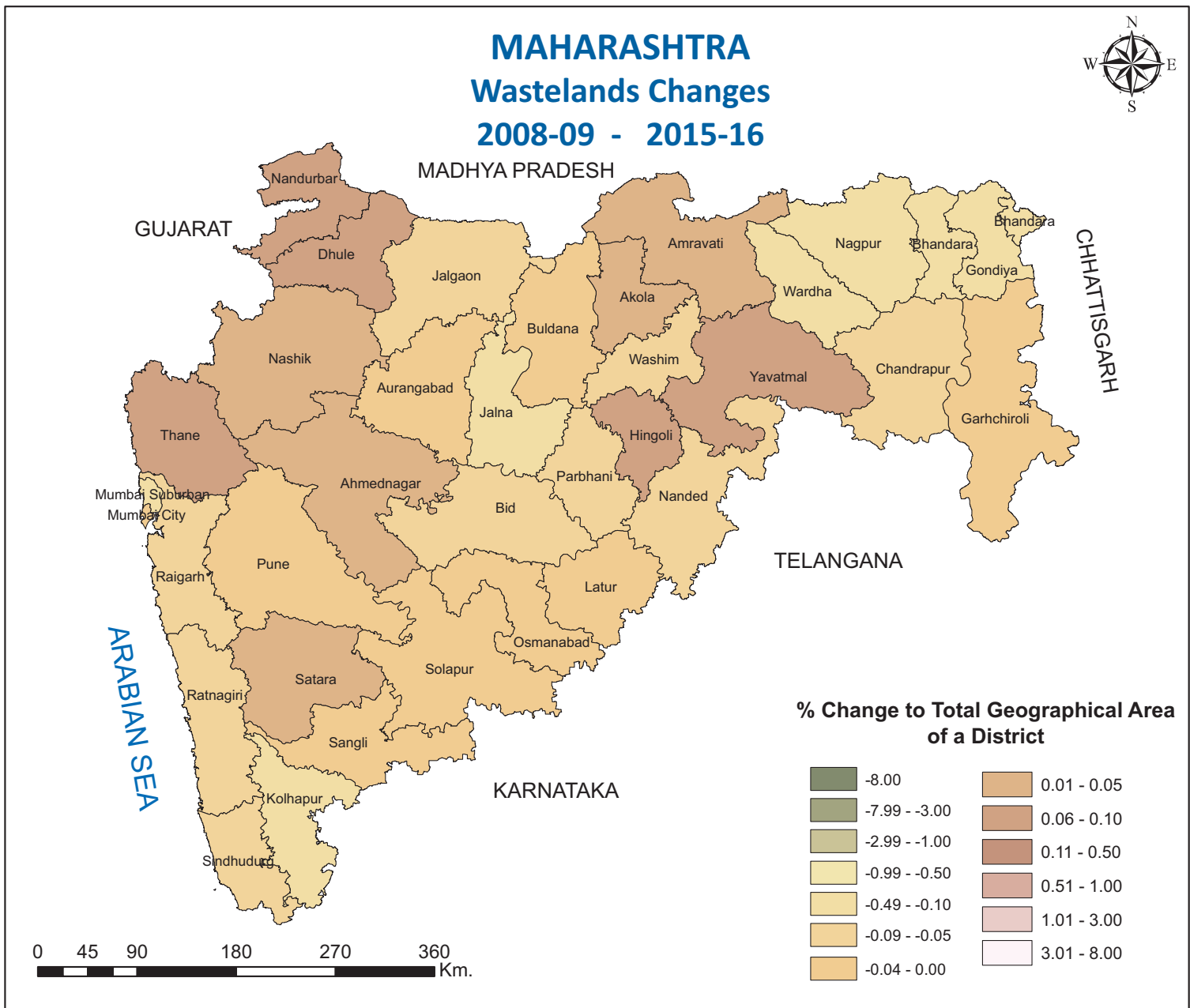
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	--	--	--	--	13.18	496
--	--	--	--	--	--	--	--	--	--	--	--	10.19	
--	--	--	--	--	--	--	--	--	--	--	--	-2.98	
--	--	--	--	--	--	--	--	--	--	--	--	739.16	3313
--	--	--	--	--	--	--	--	--	--	--	--	786.91	
--	--	--	--	--	--	--	--	--	--	--	--	47.75	
--	--	--	--	--	--	--	--	--	--	--	--	1505.94	4570
--	--	--	--	--	--	--	--	--	--	0.09	--	1536.37	
--	--	--	--	--	--	--	--	--	--	0.09	--	30.43	
0.02	--	--	--	--	--	--	--	--	--	--	--	122.31	709
0.02	--	--	--	--	--	--	--	--	--	--	--	116.36	
0.00	--	--	--	--	--	--	--	--	--	--	--	-5.96	
2.18	--	--	--	--	--	--	--	--	--	--	--	1124.38	3271
0.05	0.07	--	--	--	--	--	--	--	--	0.02	--	1088.37	
-2.13	0.07	--	--	--	--	--	--	--	--	0.02	--	-36.00	
0.14	--	--	--	--	--	--	--	--	--	--	--	963.87	4391
0.14	--	--	--	--	--	--	--	--	--	1.38	--	987.19	
0.00	--	--	--	--	--	--	--	--	--	1.38	--	23.32	
--	--	--	--	--	--	--	--	--	--	--	--	85.48	514
--	--	--	--	--	--	--	--	--	--	--	--	84.88	
--	--	--	--	--	--	--	--	--	--	--	--	-0.60	
--	--	--	--	--	--	--	--	--	--	--	--	979.68	4544
--	0.15	--	--	--	--	--	--	--	--	0.15	--	1007.74	
--	0.15	--	--	--	--	--	--	--	--	0.15	--	28.06	
--	--	--	--	--	--	--	--	--	--	--	--	30.91	519
--	0.15	--	--	--	--	--	--	--	--	--	--	33.85	
--	0.15	--	--	--	--	--	--	--	--	--	--	2.95	
2.34	--	--	--	--	--	--	--	--	--	--	--	5564.91	22327
0.21	0.37	--	--	--	--	--	--	--	--	1.63	--	5651.89	
-2.13	0.37	--	--	--	--	--	--	--	--	1.63	--	86.98	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

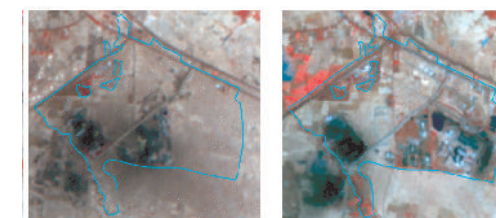
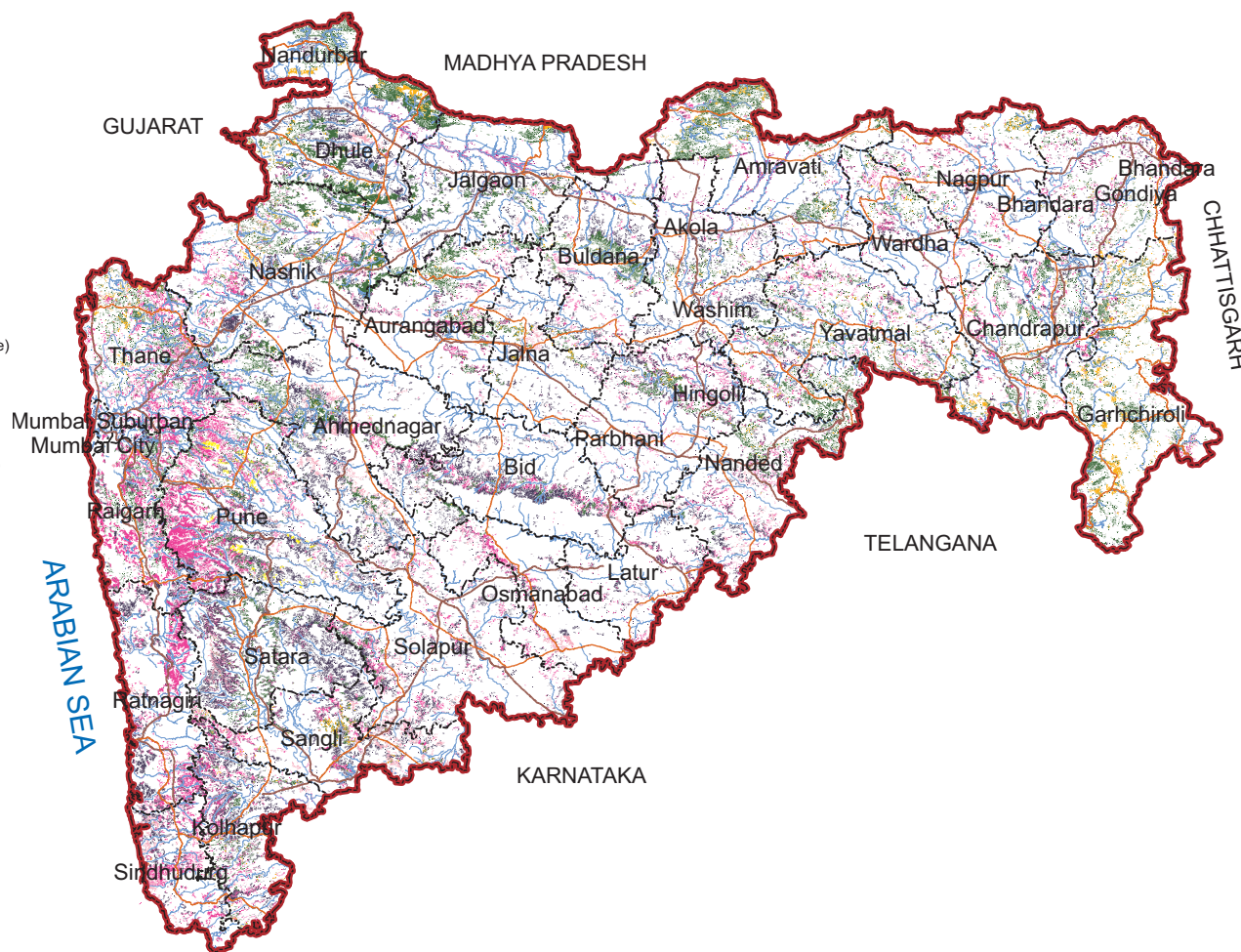
- Noticed net Decrease in wastelands area by 92.39 sq. km. during this period.
- Maximum decrease in wastelands area is observed in **Under-utilized/degraded forest (Scrub dominated)** category by 118.05 sq. km.; **land with dense scrub** by 100.51 sq. km.
- 63.26 sq. km. of wastelands area converted to cropland and 24.37 sq. km. to industrial areas.
- Kolhapur district observed maximum reduction in wastelands area by 12.27 sq. km with maximum contribution from **Under-utilized/degraded forest (Scrub dominated)** and **land with open scrub**.
- Wardha district witnessed decrease in wastelands area by 11.62 sq. km. contributed by **land with open scrub, land with dense scrub and degraded forest**.
- Yavatmal district witnessed increase in wastelands area by 12.58 sq. km. contributed by **degraded forest, land with dense and open scrub**.
- Thane district observed increase in wastelands area by 6.98 sq. km. contributed by **Under-utilized/degraded forest (Scrub domin.) and land with open scrub**.

MAHARASHTRA **Spatial Distribution of Wastelands** **2015-16**

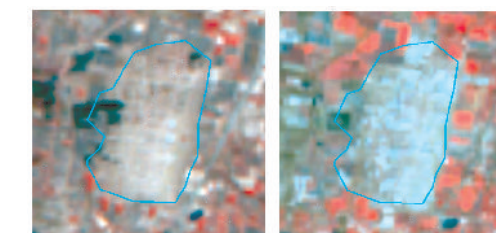


Legend

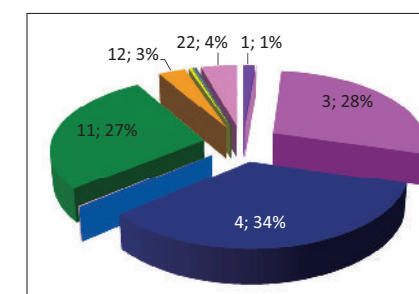
- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- International Boundary
- State Boundary
- District Boundary
- Railways
- Major Roads



Lat : 20°0'52.452"N Long : 79°11'54.461"E
 District : Chandrapur
 08-09 : Dense Scrub; 15-16 : Industry



Lat : 20°57'22.252"N Long : 79°34'56.746"E
 District : Nagpur
 08-09 : Open Scrub; 15-16 : Built up



320 Kms

Partner Inst. Maharashtra Remote Sensing App. Centre
 Dept. of Planning, Govt. of Maharashtra
 VNIT Campus, South Ambazari Road
 Nagpur – 440 011

Executed By Land Use & Cover Monitoring Divn.
 LRUMG, Remote Sensing Application
 National Remote Sensing Centre
 ISRO, Dept. of Space, GOI
 Balanagar, Hyderabad - 500037

Sponsored by Dept. of Land Resources
 Min. of Rural Development
 G - Wing, Nirman Bhawan
 GOI, New Delhi - 110 011

Total Geog. Area (TGA): 307690.00 sq. km.
 Total wasteland area : 36075.15 sq. km.
 Wasteland Percentage: 11.72

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
 Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
 Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

MAHARASHTRA

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL 2008-09 becoming non WL in 2015-16																	2008-09								
	1	3	4	5	6	7	8	11	12	13	14	15	16	20	21	22	24	25	26	27	28	29	30	32	Category Total	Grand Total
1	497.56	1.03	3.75														2.23	0.01	1.57					0.30	506.45	36167.54
2	1.44	10023.19	161.34		0.12				0.41				0.04	0.25	0.23		26.21	9.24	27.12		2.32			4.52	10256.43	
3	0.52	109.83	12148.98		0.12									0.61	1.93		74.40	13.42	25.41		3.60			2.98	12381.81	
4				7.65													0.31								7.95	
5					1.63																				1.63	
6						30.53																			30.53	
7			0.04				21.88												0.08						22.00	
8								9796.01	215.60								3.41	1.27	9.06	3.36		0.82	0.02	1.08	10030.64	
9	0.10							93.56	974.27		0.27						3.47		0.02	1.84				0.08	1073.61	
10										147.69							0.02								147.71	
11											21.29						0.05								21.34	
12												3.79													3.79	
13		0.02		0.57									67.95				0.07								68.62	
14		0.49	0.03											38.50			0.04	0.33							39.38	
15															0.81										0.81	
16																1568.44	6.27	0.12							1574.83	
999	2.51	21.36	62.44		0.48			23.01	14.28	0.40		0.58	0.01	1.89	5.69											
Category Total (2015-16)	502.14	10155.92	12376.57	8.22	2.35	30.53	21.88	9912.59	1204.56	148.09	21.56	4.37	68.00	41.24	8.67	1568.44	116.48	24.37	63.26	5.21	5.92	0.82	0.02	8.96		
Grand Total (2015-16)	36075.15																									

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	4.11	121	2.51	24
3	69.41	1046	21.36	162
4	119.82	2022	62.44	401
5	0.31	1		
6			0.48	3
7				
8	0.08	1		
11	19.04	314	23.01	64
12	5.41	55	14.28	67
13	0.02	1	0.40	3
14	0.05	1		
15			0.58	4
16	0.07	3	0.01	1
20	0.36	4	1.89	8
21			5.69	6
22	6.39	14.5		
Total	225.05	3583.5	132.66	743

Wastelands becoming Non-wastelands (-) 225.05
 Non-wastelands becoming Wastelands (+) 132.66
 NET Change (2015 - 16) - (2008 - 09) (-) 92.39

Green denotes Change from wasteland to non-wasteland
 Red denotes change from non-wasteland to wastelands
 Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Maharashtra

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Ahmednagar	2008-09	8.06	--	214.05	1182.27	--	--	--	--	--	--	611.34
	2015-16	7.59	--	213.31	1183.79	--	--	--	--	--	--	610.97
	Change	-0.48	--	-0.73	1.51	--	--	--	--	--	--	-0.37
Akola	2008-09	69.61	--	29.56	128.46	--	--	--	--	--	--	70.76
	2015-16	67.56	--	28.50	131.25	--	--	--	--	--	--	68.35
	Change	-2.05	--	-1.06	2.79	--	--	--	--	--	--	-2.42
Amravati	2008-09	73.41	--	123.52	83.14	0.11	0.01	--	--	--	--	814.76
	2015-16	72.83	--	121.18	87.67	0.11	0.09	--	--	--	--	815.50
	Change	-0.58	--	-2.34	4.52	0.00	0.08	--	--	--	--	0.74
Aurangabad	2008-09	0.45	--	248.79	169.26	--	--	--	--	--	--	327.60
	2015-16	0.55	--	246.86	170.62	--	--	--	--	--	--	323.36
	Change	0.10	--	-1.92	1.37	--	--	--	--	--	--	-4.24
Bhandara	2008-09	0.37	--	91.18	54.78	0.01	0.09	--	--	--	--	53.43
	2015-16	0.14	--	86.83	54.26	0.01	0.09	--	--	--	--	50.31
	Change	-0.23	--	-4.35	-0.52	0.00	0.01	--	--	--	--	-3.12
Bid	2008-09	0.12	--	268.14	916.09	--	--	--	--	--	--	144.04
	2015-16	0.12	--	269.27	910.42	--	--	--	--	--	--	143.26
	Change	0.00	--	1.14	-5.68	--	--	--	--	--	--	-0.77
Buldana	2008-09	31.14	--	103.63	254.29	--	--	--	--	--	--	400.93
	2015-16	30.89	--	96.02	258.80	--	--	--	--	--	--	393.10
	Change	-0.25	--	-7.61	4.50	--	--	--	--	--	--	-7.84
Chandrapur	2008-09	5.67	--	335.95	272.16	--	--	--	--	--	--	443.50
	2015-16	6.16	--	313.85	283.64	--	--	--	--	--	--	457.87
	Change	0.49	--	-22.10	11.48	--	--	--	--	--	--	14.37
Dhule	2008-09	68.93	--	29.91	588.50	--	--	--	--	--	--	1328.11
	2015-16	68.22	--	27.52	591.44	--	--	--	--	--	--	1305.51
	Change	-0.71	--	-2.39	2.94	--	--	--	--	--	--	-22.60
Garhchiroli	2008-09	--	--	89.18	48.01	--	--	--	--	--	--	522.14
	2015-16	--	--	88.95	48.02	--	--	--	--	--	--	477.37
	Change	--	--	-0.23	0.01	--	--	--	--	--	--	-44.77
Gondiya	2008-09	0.09	--	92.41	101.01	--	--	--	--	--	--	57.06
	2015-16	0.09	--	85.04	99.84	--	0.15	--	--	--	--	54.72
	Change	0.00	--	-7.37	-1.17	--	0.15	--	--	--	--	-2.34
Hingoli	2008-09	2.82	--	181.76	200.67	--	--	--	--	--	--	152.42
	2015-16	3.04	--	181.81	204.00	--	--	--	--	--	--	152.63
	Change	0.22	--	0.05	3.34	--	--	--	--	--	--	0.20
Jalgaon	2008-09	155.97	--	52.02	333.37	--	--	--	--	--	--	510.40
	2015-16	155.09	--	50.93	328.24	--	--	--	--	--	--	507.33
	Change	-0.88	--	-1.08	-5.13	--	--	--	--	--	--	-3.07
Jalna	2008-09	0.01	--	25.15	174.83	--	--	--	--	--	--	85.73
	2015-16	0.01	--	24.55	167.22	--	--	--	--	--	--	83.13
	Change	0.00	--	-0.60	-7.60	--	--	--	--	--	--	-2.59

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
5.58	--	10.94	--	--	--	--	--	0.03	--	291.70	--	2323.97	17048
6.53	--	10.94	--	--	--	--	--	0.09	0.16	291.68	--	2325.06	
0.95	--	0.00	--	--	--	--	--	0.05	0.16	-0.01	--	1.09	
2.34	--	--	0.61	--	--	--	--	--	--	--	--	301.34	5456
5.36	--	--	0.61	--	--	--	--	0.74	0.32	--	--	302.68	
3.02	--	--	0.00	--	--	--	--	0.74	0.32	--	--	1.34	
111.95	--	--	2.56	--	--	--	--	0.27	--	0.37	--	1210.11	12212
111.79	--	--	2.56	--	--	--	--	0.35	0.03	0.37	--	1212.48	
-0.16	--	--	0.00	--	--	--	--	0.08	0.03	0.00	--	2.37	
3.68	--	--	--	--	--	--	--	1.11	--	17.92	--	768.81	10213
7.46	--	--	--	--	--	--	--	1.11	--	17.92	--	767.89	
3.78	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.92	
1.06	--	0.35	0.03	--	--	--	--	1.09	--	1.62	--	204.01	3951
3.93	--	0.35	0.03	--	--	--	--	1.05	0.12	1.61	--	198.74	
2.88	--	0.00	0.00	--	--	--	--	-0.03	0.12	-0.01	--	-5.27	
1.72	--	1.33	--	--	--	--	--	1.71	--	42.93	--	1376.08	10760
1.82	--	1.33	--	--	--	--	--	1.72	--	42.70	--	1370.64	
0.09	--	0.00	--	--	--	--	--	0.01	--	-0.23	--	-5.44	
3.17	--	--	--	--	--	--	--	--	--	1.32	--	794.49	9661
11.34	--	--	--	--	--	--	--	--	--	1.32	--	791.47	
8.18	--	--	--	--	--	--	--	--	--	0.00	--	-3.02	
84.82	--	--	0.24	--	--	--	--	11.01	--	9.84	--	1163.19	10490
70.82	--	--	0.24	--	--	--	--	11.01	1.53	9.81	--	1154.92	
-14.00	--	--	0.00	--	--	--	--	0.00	1.53	-0.03	--	-8.26	
114.34	--	--	--	--	--	--	--	0.05	0.04	82.37	--	2212.25	8095
141.86	--	--	--	--	--	--	--	0.05	0.04	82.31	--	2216.96	
27.52	--	--	--	--	--	--	--	0.00	0.00	-0.05	--	4.71	
310.35	--	--	--	--	--	--	--	--	--	2.18	--	971.87	15433
352.31	--	0.27	--	--	--	--	--	--	--	2.18	--	969.11	
41.95	--	0.27	--	--	--	--	--	--	--	0.00	--	-2.76	
23.42	--	--	--	--	--	--	--	0.02	--	2.67	--	276.68	5262
25.23	--	--	--	--	--	--	--	0.02	1.78	2.67	--	269.53	
1.80	--	--	--	--	--	--	--	0.00	1.78	0.00	--	-7.15	
12.03	--	--	--	--	--	--	--	--	--	4.03	--	553.73	5329
11.81	--	--	--	--	--	--	--	--	0.08	3.99	--	557.37	
-0.22	--	--	--	--	--	--	--	0.00	0.08	-0.04	--	3.64	
24.58	--	0.17	--	--	--	--	--	0.09	0.10	26.80	--	1103.50	11765
27.19	--	0.17	--	--	--	--	--	0.09	0.17	26.80	--	1096.02	
2.61	--	0.00	--	--	--	--	--	0.00	0.06	0.00	--	-7.49	
19.31	--	--	--	--	--	--	--	--	--	46.51	--	351.54	6417
21.64	--	--	--	--	--	--	--	--	--	46.35	--	342.91	
2.32	--	--	--	--	--	--	--	--	--	-0.17	--	-8.63	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Maharashtra contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Kolhapur	2008-09	--	--	533.33	697.52	--	--	--	--	--	--	155.35
	2015-16	--	--	534.28	686.32	--	--	--	--	--	--	168.51
	Change	--	--	0.95	-11.21	--	--	--	--	--	--	13.16
Latur	2008-09	--	--	81.92	170.59	--	--	--	--	--	--	--
	2015-16	--	--	80.82	168.47	--	--	--	--	--	--	--
	Change	--	--	-1.10	-2.12	--	--	--	--	--	--	--
Mumbai City	2008-09	--	--	--	--	--	--	--	--	--	--	--
	2015-16	--	--	--	--	--	--	--	--	--	--	--
	Change	--	--	--	--	--	--	--	--	--	--	--
Mumbai Suburban	2008-09	2.61	--	17.61	0.39	0.09	--	--	--	--	--	0.14
	2015-16	1.86	--	17.92	0.42	0.09	--	--	--	--	--	0.08
	Change	-0.75	--	0.31	0.03	0.00	--	--	--	--	--	-0.06
Nagpur	2008-09	4.92	--	230.23	162.70	--	--	--	--	--	--	94.23
	2015-16	4.92	--	201.41	170.52	--	--	--	--	--	--	97.14
	Change	0.00	--	-28.82	7.82	--	--	--	--	--	--	2.91
Nanded	2008-09	2.27	--	226.34	361.25	--	--	--	--	--	--	254.37
	2015-16	2.14	--	224.94	357.83	--	--	--	--	--	--	242.95
	Change	-0.13	--	-1.40	-3.42	--	--	--	--	--	--	-11.42
Nandurbar	2008-09	1.97	--	3.38	167.44	--	--	--	--	--	--	344.50
	2015-16	1.97	--	5.22	167.79	--	--	--	--	--	--	341.39
	Change	0.00	--	1.84	0.34	--	--	--	--	--	--	-3.11
Nashik	2008-09	31.12	--	309.81	598.90	--	--	--	--	--	--	1190.48
	2015-16	32.87	--	312.27	600.33	--	--	--	--	--	--	1175.96
	Change	1.75	--	2.45	1.44	--	--	--	--	--	--	-14.51
Osmanabad	2008-09	0.75	--	234.45	114.09	--	--	--	--	--	--	3.36
	2015-16	0.75	--	222.61	125.56	--	--	--	--	--	--	3.36
	Change	0.00	--	-11.84	11.47	--	--	--	--	--	--	0.00
Parbhani	2008-09	12.77	--	99.19	177.63	--	--	--	--	--	--	76.93
	2015-16	12.76	--	96.61	175.31	--	--	--	--	--	--	74.66
	Change	-0.01	--	-2.58	-2.32	--	--	--	--	--	--	-2.27
Pune	2008-09	--	--	1819.17	1002.63	--	--	--	--	--	--	382.30
	2015-16	--	--	1809.30	1009.20	--	--	--	--	--	--	380.22
	Change	--	--	-9.87	6.57	--	--	--	--	--	--	-2.08
Raigarh	2008-09	0.25	--	1147.00	416.89	0.99	--	--	--	--	--	357.26
	2015-16	0.39	--	1160.10	396.84	0.99	--	--	--	--	--	356.41
	Change	0.14	--	13.11	-20.05	0.00	--	--	--	--	--	-0.85
Ratnagiri	2008-09	--	--	793.69	612.42	--	--	--	--	--	--	30.54
	2015-16	--	--	843.88	556.59	--	--	--	--	--	--	30.52
	Change	--	--	50.18	-55.84	--	--	--	--	--	--	-0.02
Sangli	2008-09	10.03	--	263.00	506.46	--	--	1.45	10.61	--	--	156.50
	2015-16	9.38	--	262.20	503.81	--	--	1.45	10.61	--	--	172.97
	Change	-0.65	--	-0.81	-2.64	--	--	0.00	0.00	--	--	16.47

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
39.13	--	2.25	--	--	--	--	--	0.65	--	13.91	--	1442.14	8047
25.41	--	2.25	--	--	--	--	--	0.65	--	12.45	--	1429.87	
-13.72	--	0.00	--	--	--	--	--	0.00	--	-1.46	--	-12.27	
--	--	--	--	--	--	--	--	0.01	--	11.71	--	264.23	6725
--	--	--	--	--	--	--	--	0.01	--	11.61	--	260.91	
--	--	--	--	--	--	--	--	0.00	--	-0.10	--	-3.31	
--	--	--	--	0.15	--	--	--	--	--	0.44	--	0.58	157
--	--	--	--	0.15	--	--	--	--	--	0.44	--	0.58	
--	--	--	--	0.00	--	--	--	--	--	0.00	--	0.00	
--	--	--	--	2.92	--	--	--	0.13	--	1.56	--	25.45	446
--	--	--	--	2.92	--	--	--	0.13	--	1.56	--	24.98	
--	--	--	--	0.00	--	--	--	0.00	--	0.00	--	-0.47	
18.80	--	--	--	--	--	--	--	6.30	0.21	7.90	--	525.29	9931
20.43	--	--	--	--	--	--	--	7.21	3.84	7.90	--	513.38	
1.63	--	--	0.00	--	--	--	--	0.91	3.63	0.00	--	-11.91	
2.35	--	--	0.34	--	--	--	--	0.03	--	74.28	--	921.23	10502
11.28	--	--	0.34	--	--	--	--	0.15	--	73.00	--	912.63	
8.93	--	--	0.00	--	--	--	--	0.12	--	-1.28	--	-8.60	
81.00	--	--	--	--	--	--	--	0.10	--	0.62	--	599.01	5055
86.53	--	--	--	--	--	--	--	0.10	--	0.62	--	603.61	
5.53	--	--	--	--	--	--	--	0.00	--	0.00	--	4.59	
42.48	--	--	--	--	--	--	--	0.83	--	143.02	--	2316.64	15530
56.51	--	--	0.58	0.04	--	--	--	0.92	--	142.22	--	2321.70	
14.02	--	--	0.58	0.04	--	--	--	0.09	--	-0.80	--	5.06	
--	--	--	--	--	--	--	--	--	--	72.51	--	425.16	7485
--	--	--	--	--	--	--	--	--	--	72.41	--	424.68	
0.00	--	--	--	--	--	--	--	0.00	--	-0.10	--	-0.47	
0.24	--	--	--	--	--	--	--	0.00	--	31.84	--	398.61	7232
1.53	--	--	--	--	--	--	--	0.00	--	31.77	--	392.64	
1.29	--	--	--	--	--	--	--	0.00	--	-0.07	--	-5.97	
6.64	147.71	2.89	--	--	--	--	--	1.21	--	74.65	--	3437.20	15642
9.99	148.09	2.89	--	--	--	--	--	0.89	--	74.54	--	3435.12	
3.35	0.38	0.00	--	--	--	--	--	-0.33	--	-0.11	--	-2.08	
--	--	--	--	2.91	--	--	--	2.04	--	8.67	--	1936.00	7148
0.85	--	--	--	2.90	--	--	--	2.02	--	8.36	--	1928.86	
0.85	--	--	--	0.00	--	--	--	-0.02	--	-0.31	--	-7.14	
--	--	--	--	36.21	--	--	--	--	--	60.36	--	1533.22	8391
--	--	--	--	36.14	--	--	--	--	--	60.13	--	1527.26	
0.00	--	--	--	-0.07	--	--	--	0.00	--	-0.22	--	-5.96	
64.78	--	--	--	--	--	--	--	0.19	--	210.88	--	1223.91	8572
48.19	--	--	--	--	--	--	--	0.19	--	210.87	--	1219.68	
-16.59	--	--	--	--	--	--	--	0.00	--	-0.01	--	-4.24	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal
17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area

Maharashtra contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Satara	2008-09	--	--	202.52	1275.44	--	--	--	--	--	--	250.71
	2015-16		--	203.02	1276.66	--	--	--	--	--	--	249.65
	Change	--	--	0.50	1.23	--	--	--	--	--	--	-1.05
Sindhudurg	2008-09	--	--	439.74	250.60	0.27	1.53	--	--	--	--	2.38
	2015-16	--	--	442.41	244.99	0.27	2.01	--	--	--	--	3.49
	Change	--	--	2.67	-5.61	0.00	0.48	--	--	--	--	1.11
Solapur	2008-09	1.23	--	445.80	570.17	--	--	--	--	--	--	90.33
	2015-16	0.99	--	420.09	591.68	--	--	--	--	--	--	90.27
	Change	-0.25	--	-25.71	21.51	--	--	--	--	--	--	-0.06
Thane	2008-09	0.03	--	1022.09	111.59	6.48	--	29.08	11.39	--	--	450.98
	2015-16	0.03	--	984.99	150.95	6.75	--	29.08	11.27	--	--	424.19
	Change	0.00	--	-37.10	39.36	0.27	--	0.00	-0.12	--	--	-26.80
Wardha	2008-09	12.67	--	140.46	120.78	--	--	--	--	--	--	72.04
	2015-16	12.62	--	136.79	112.70	--	--	--	--	--	--	69.05
	Change	-0.04	--	-3.68	-8.08	--	--	--	--	--	--	-2.98
Washim	2008-09	0.02	--	49.85	278.94	--	--	--	--	--	--	52.97
	2015-16	0.02	--	48.87	275.46	--	--	--	--	--	--	51.41
	Change	0.00	--	-0.97	-3.48	--	--	--	--	--	--	-1.56
Yavatmal	2008-09	9.16	--	311.60	278.54	--	--	--	--	--	--	543.06
	2015-16	9.16	--	313.55	285.94	--	--	--	--	--	--	536.93
	Change	0.00	--	1.95	7.40	--	--	--	--	--	--	-6.12
Grand Total	2008-09	506.45	--	10256.43	12381.81	7.95	1.63	30.53	22.00	--	--	10030.64
	2015-16	2015-16	502.14	--	10155.92	12376.57	8.22	2.35	30.53	21.88	--	9912.59
	Change	-4.31	--	-100.51	-5.24	0.27	0.72	0.00	-0.12	--	--	-118.05

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

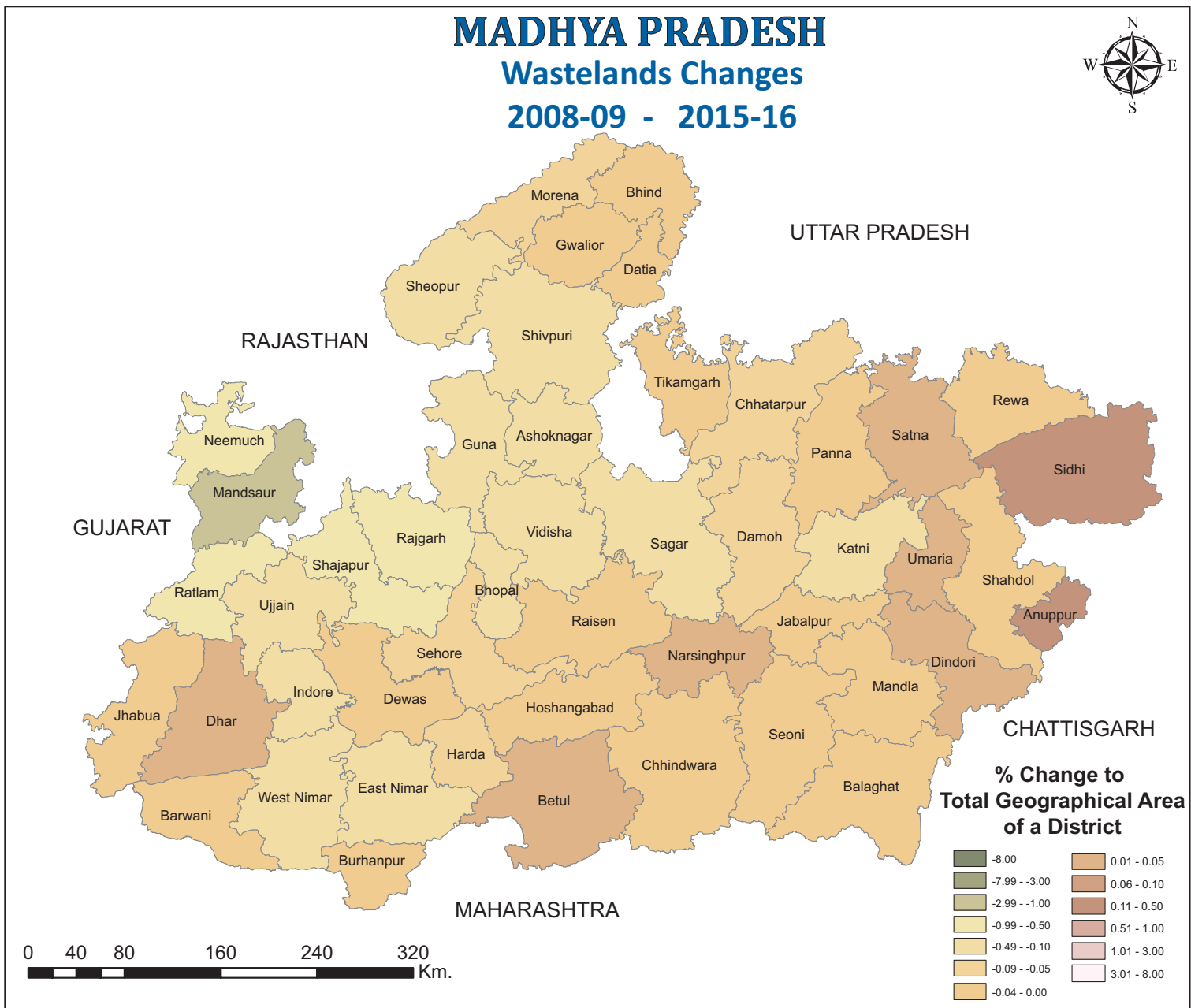
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
0.85	--	3.25	--	--	--	--	--	--	--	55.33	--	1788.08	10484
1.17	--	3.20	--	--	--	--	--	--	--	55.10	--	1788.81	
0.32	--	-0.05	--	--	--	--	--	--	--	-0.23	--	0.72	
1.49	--	0.16	--	20.11	--	--	--	--	--	122.45	--	838.73	4663
0.38	--	0.16	--	20.09	--	--	--	--	--	122.08	--	835.88	
-1.11	--	0.00	--	-0.02	--	--	--	--	--	-0.38	--	-2.85	
0.53	--	--	--	--	--	--	--	0.11	--	117.12	--	1225.29	15017
0.60	--	--	--	--	--	--	--	0.11	--	116.40	--	1220.12	
0.06	--	--	--	--	--	--	--	0.00	--	-0.72	--	-5.17	
55.58	--	--	--	6.32	--	--	--	0.17	--	0.61	--	1694.33	9558
87.51	--	--	--	5.76	--	--	--	0.17	--	0.61	--	1701.32	
31.93	--	--	--	-0.56	--	--	--	0.00	--	0.00	--	6.98	
7.22	--	--	--	--	--	--	--	0.15	0.46	--	--	353.77	6310
10.20	--	--	--	--	--	--	--	0.18	0.60	--	--	342.15	
2.98	--	--	--	--	--	--	--	0.03	0.14	--	--	-11.62	
2.06	--	--	--	--	--	--	--	--	--	2.82	--	386.65	5119
3.47	--	--	--	--	--	--	--	0.12	--	2.82	--	382.17	
1.41	--	--	--	--	--	--	--	0.12	--	0.00	--	-4.49	
32.11	--	--	--	--	--	--	--	12.09	--	33.89	--	1220.44	13584
41.42	--	--	--	--	--	--	--	12.18	--	33.84	--	1233.02	
9.31	--	--	--	--	--	--	--	0.09	--	-0.05	--	12.58	
1073.61	147.71	21.34	3.79	68.62	--	--	--	39.38	0.81	1574.83	--	36167.54	307690
1204.56	148.09	21.56	4.37	68.00	--	--	--	41.24	8.67	1568.44	--	36075.15	
130.94	0.38	0.22	0.58	-0.62	--	--	--	1.86	7.86	-6.39	--	-92.39	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Decrease in area under wastelands by 398 sq. km. is observed during this period
- Maximum decrease in wastelands area under **land with open scrub** by 341.90 sq. km.; followed by **land with dense scrub** by 71.78 sq. km. and **Under-utilized/degraded forest (Scrub dominated)** by 68.63 sq. km.
- 220.05 sq. km. of wastelands area converted to cropland primarily from **land with open scrub** (177.97 sq. km.).
- During this period wastelands area has converted to Non wastelands area **which include water** body (57 new water bodies accounting for 127.04 sq. km), industrial area (62.23 sq. km), built-up (17.14 sq. km), forest plantation (16.27 sq. km) and agricultural plantation (14.36 sq. km.).
- Maximum decrease is observed in Mandsaur district by 69.77 sq. km. mainly from **land with open scrub** by 61.52 sq. km.
- Shajapur district witnessed decrease in wastelands area by 49.98 sq. km.
- During the period under consideration , net wastelands area in Sidhi district increased by 20.06 sq. km. District observed increase in mining wastelands area by 27.96 sq. km.

MADHYA PRADESH

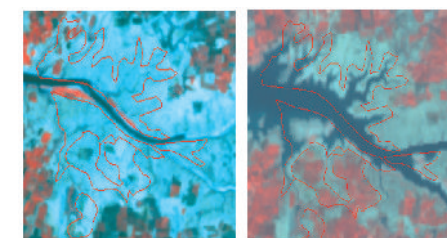
Spatial Distribution of Wastelands

2015-16

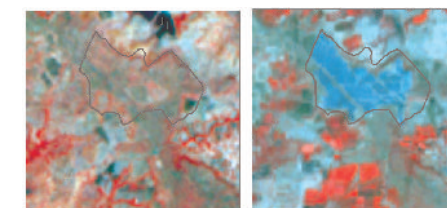


Legend

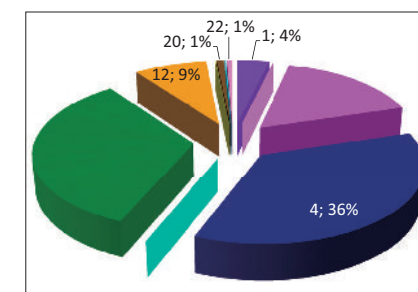
- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- District Boundary
- Railways
- Major Roads



Lat : 23°47'28.306"N, Long : 76°54'50.04"E
District : Rajgarh
08-09 : Open Scrub; 15-16 : Water bodies



Lat : 23°49'38.925"N Long : 75°53'59.485"E
District : Shajapur
08-09 : Dense scrub; 15-16 : Industrial area



0 40 80 160 240 320 Kms

Partner Inst.
Remote Sensing Applications Centre
M P Council of S&T, Government of MP
VigyanBhavan, Nehru Nagar
Bhopal - 462 003

Executed By
Land Use & Cover Monitoring Divn.
LRUMG, Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by
Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011

Total Geog. Area (TGA): 308252.00 sq. km.
Total wasteland area : 39536.62 sq. km.
Wasteland Percentage: 12.83

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

MADHYA PRADESH

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16											WL 2008-09 becoming non_WL in 2015-16								2008-09	
	1	2	3	4	11	12	13	15	20	21	22	24	25	26	27	28	29	30	32	Category Total	Grand Total
1	1471.60												0.02	3.38					1.52	1476.51	39934.63
2		11.42																		11.42	
3			6533.14	0.73					3.51	1.72		0.90	10.37	38.33	0.85	4.67		0.23	10.87	6605.33	
4			0.42	14186.91					14.35	6.73		12.96	31.85	177.97	2.32	8.83			87.48	14529.84	
11					13316.52	11.40			1.27	0.36			19.68	0.08		0.08		14.93	25.13	13389.45	
12						3356.70			0.87	0.22								1.11	0.97	3359.86	
13							12.57					1.15								13.72	
15								3.30												3.30	
20									266.17			0.05							0.60	266.81	
21										27.57										27.57	
22				0.12					1.78		244.99	2.07	0.31	0.30		0.77			0.47	250.82	
999				0.17	4.29				33.43	24.36											
Category Total (2015-16)	1471.60	11.42	6533.55	14187.94	13320.82	3368.09	12.57	3.30	321.37	60.97	244.99	17.14	62.23	220.05	3.17	14.36		16.27	127.04		
Grand Total (2015-16)	39536.62																				

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	4.91	8		
2				
3	66.23	342		
4	321.43	1318	0.17	1
11	59.90	150	4.29	19
12	2.08	12		
13	1.15	2		
15				
20	0.64	3	33.43	75
21			24.36	18
22	3.92	19		
Total	460.26	1854	62.25	113

Wastelands becoming Non-wastelands (-) **460.26**
 Non-wastelands becoming Wastelands (+) **62.25**
 NET Change (2015 - 16)- (2008 - 09) (-) **398.00**

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes		Non-Wasteland Classes	
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Madhya Pradesh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Anuppur	2008-09	1.01	--	44.22	93.25	--	--	--	--	--	--	52.36
	2015-16	1.01	--	43.82	92.31	--	--	--	--	--	--	52.36
	Change	0.00	--	-0.40	-0.94	--	--	--	--	--	--	0.00
Ashoknagar	2008-09	--	--	23.88	225.59	--	--	--	--	--	--	147.18
	2015-16	--	--	23.59	215.91	--	--	--	--	--	--	147.18
	Change	--	--	-0.29	-9.68	--	--	--	--	--	--	0.00
Balaghat	2008-09	0.19	--	317.50	223.83	--	--	--	--	--	--	200.46
	2015-16	0.19	--	316.13	223.13	--	--	--	--	--	--	201.21
	Change	0.00	--	-1.38	-0.71	--	--	--	--	--	--	0.74
Barwani	2008-09	21.21	--	7.69	370.98	--	--	--	--	--	--	766.15
	2015-16	21.21	--	7.69	370.14	--	--	--	--	--	--	764.68
	Change	0.00	--	0.00	-0.84	--	--	--	--	--	--	-1.47
Betul	2008-09	0.19	--	130.23	175.57	--	--	--	--	--	--	136.14
	2015-16	0.19	--	129.56	175.42	--	--	--	--	--	--	134.17
	Change	0.00	--	-0.67	-0.14	--	--	--	--	--	--	-1.96
Bhind	2008-09	444.14	0.98	4.21	38.33	--	--	--	--	--	--	10.23
	2015-16	444.14	0.98	4.21	38.33	--	--	--	--	--	--	10.23
	Change	0.00	0.00	0.00	0.00	--	--	--	--	--	--	0.00
Bhopal	2008-09	0.61	--	108.37	112.77	--	--	--	--	--	--	74.13
	2015-16	0.61	--	106.02	104.38	--	--	--	--	--	--	73.76
	Change	0.00	--	-2.35	-8.39	--	--	--	--	--	--	-0.37
Burhanpur	2008-09	2.46	--	31.78	58.19	--	--	--	--	--	--	199.65
	2015-16	2.46	--	31.54	57.10	--	--	--	--	--	--	197.71
	Change	0.00	--	-0.25	-1.09	--	--	--	--	--	--	-1.95
Chhatarpur	2008-09	30.23	--	154.33	531.27	--	--	--	--	--	--	158.26
	2015-16	30.23	--	153.99	525.60	--	--	--	--	--	--	157.62
	Change	0.00	--	-0.33	-5.67	--	--	--	--	--	--	-0.65
Chhindwara	2008-09	1.33	--	113.43	139.17	--	--	--	--	--	--	289.48
	2015-16	1.33	--	112.93	138.61	--	--	--	--	--	--	288.38
	Change	0.00	--	-0.51	-0.56	--	--	--	--	--	--	-1.10
Damoh	2008-09	4.08	--	202.81	546.24	--	--	--	--	--	--	330.34
	2015-16	3.86	--	201.87	542.84	--	--	--	--	--	--	330.34
	Change	-0.21	--	-0.94	-3.40	--	--	--	--	--	--	0.00
Datia	2008-09	14.72	--	13.32	53.80	--	--	--	--	--	--	42.85
	2015-16	14.72	--	13.32	53.61	--	--	--	--	--	--	42.85
	Change	0.00	--	0.00	-0.19	--	--	--	--	--	--	0.00
Dewas	2008-09	8.40	--	59.21	221.83	--	--	--	--	--	--	480.90
	2015-16	8.40	--	59.21	221.19	--	--	--	--	--	--	480.16
	Change	0.00	--	0.00	-0.64	--	--	--	--	--	--	-0.73
Dhar	2008-09	26.95	3.82	97.07	488.02	--	--	--	--	--	--	275.00
	2015-16	26.95	3.82	96.98	483.17	--	--	--	--	--	--	273.25
	Change	0.00	0.00	-0.08	-4.84	--	--	--	--	--	--	-1.76

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
57.45	--	--	--	--	--	--	--	12.12	2.48	0.36	--	263.23	2085
57.43	--	--	--	--	--	--	--	15.25	2.87	0.36	--	265.40	
-0.02	--	--	--	--	--	--	--	3.13	0.40	0.00	--	2.17	
75.72	--	--	--	--	--	--	--	0.84	--	--	--	473.21	4760
75.72	--	--	--	--	--	--	--	1.34	--	--	--	463.74	
0.00	--	--	--	--	--	--	--	0.50	--	--	--	-9.48	
232.28	--	--	--	--	--	--	--	13.72	0.44	0.28	--	988.70	9229
232.22	--	--	--	--	--	--	--	14.49	0.44	0.28	--	988.07	
-0.06	--	--	--	--	--	--	--	0.77	0.00	0.00	--	-0.63	
150.34	--	--	--	--	--	--	--	0.80	--	2.58	--	1319.75	5422
150.80	--	--	--	--	--	--	--	0.88	--	2.58	--	1317.98	
0.46	--	--	--	--	--	--	--	0.08	--	0.00	--	-1.77	
19.38	--	--	--	--	--	--	--	1.48	0.97	--	--	463.96	10043
20.42	--	--	--	--	--	--	--	2.03	5.18	--	--	466.98	
1.04	--	--	--	--	--	--	--	0.55	4.20	--	--	3.02	
7.11	--	--	0.34	--	--	--	--	0.88	--	4.05	--	510.27	4459
7.11	--	--	0.34	--	--	--	--	0.88	--	4.05	--	510.27	
0.00	--	--	0.00	--	--	--	--	0.00	--	--	--	0.00	
10.08	0.18	--	--	--	--	--	--	5.63	0.64	--	--	312.40	2772
10.38	0.18	--	--	--	--	--	--	5.77	0.65	--	--	301.74	
0.30	0.00	--	--	--	--	--	--	0.14	0.02	--	--	-10.66	
64.60	--	--	--	--	--	--	--	--	--	--	--	356.67	3300
65.66	--	--	--	--	--	--	--	0.80	--	--	--	355.25	
1.06	--	--	--	--	--	--	--	0.80	--	--	--	-1.42	
146.25	--	--	--	--	--	--	--	1.05	--	4.83	--	1026.22	8687
145.95	--	--	--	--	--	--	--	1.05	--	4.83	--	1019.27	
-0.30	--	--	--	--	--	--	--	0.00	--	0.00	--	-6.95	
10.95	--	--	--	--	--	--	--	12.32	--	0.90	--	567.58	11815
10.95	--	--	--	--	--	--	--	13.39	--	0.90	--	566.48	
0.00	--	--	--	--	--	--	--	1.07	--	0.00	--	-1.10	
82.42	--	--	--	--	--	--	--	3.76	0.46	9.98	--	1180.08	7306
82.36	--	--	--	--	--	--	--	3.76	0.87	9.98	--	1175.89	
-0.05	--	--	--	--	--	--	--	0.00	0.41	0.00	--	-4.19	
10.56	--	--	--	--	--	--	--	0.76	--	2.36	--	138.37	2038
10.56	--	--	--	--	--	--	--	0.94	--	2.36	--	138.36	
0.00	--	--	--	--	--	--	--	0.18	--	0.00	--	-0.01	
9.81	--	--	--	--	--	--	--	1.89	--	1.68	--	783.73	7020
10.30	--	--	--	--	--	--	--	1.89	--	1.68	--	782.84	
0.49	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.89	
8.06	3.34	--	--	--	--	--	--	7.61	--	19.98	--	929.85	8153
8.06	3.34	--	--	--	--	--	--	8.60	9.37	19.94	--	933.47	
0.00	0.00	--	--	--	--	--	--	0.99	9.37	-0.04	--	3.63	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Madhya Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Dindori	2008-09	6.41	--	167.55	144.55	--	--	--	--	--	--	117.39
	2015-16	6.41	--	167.55	144.43	--	--	--	--	--	--	117.39
	Change	0.00	--	0.00	-0.13	--	--	--	--	--	--	0.00
East Nimar	2008-09	0.78	--	62.63	224.60	--	--	--	--	--	--	239.38
	2015-16	0.78	--	60.56	208.60	--	--	--	--	--	--	220.71
	Change	0.00	--	-2.06	-16.00	--	--	--	--	--	--	-18.67
Guna	2008-09	13.02	--	48.92	365.86	--	--	--	--	--	--	278.78
	2015-16	13.02	--	47.56	336.91	--	--	--	--	--	--	273.46
	Change	0.00	--	-1.36	-28.96	--	--	--	--	--	--	-5.32
Gwalior	2008-09	41.03	--	35.04	362.37	--	--	--	--	--	--	515.06
	2015-16	41.03	--	34.24	362.19	--	--	--	--	--	--	515.06
	Change	0.00	--	-0.80	-0.18	--	--	--	--	--	--	0.00
Harda	2008-09	0.98	--	45.78	44.93	--	--	--	--	--	--	14.50
	2015-16	0.98	--	45.46	43.20	--	--	--	--	--	--	14.00
	Change	0.00	--	-0.32	-1.73	--	--	--	--	--	--	-0.51
Hoshangabad	2008-09	3.40	--	36.77	75.01	--	--	--	--	--	--	24.23
	2015-16	3.40	--	36.22	75.01	--	--	--	--	--	--	24.23
	Change	0.00	--	-0.55	0.00	--	--	--	--	--	--	0.00
Indore	2008-09	0.88	--	92.56	140.68	--	--	--	--	--	--	109.86
	2015-16	0.88	--	92.27	136.03	--	--	--	--	--	--	109.62
	Change	0.00	--	-0.29	-4.65	--	--	--	--	--	--	-0.23
Jabalpur	2008-09	23.10	4.69	204.74	243.99	--	--	--	--	--	--	58.91
	2015-16	23.10	4.69	204.63	242.98	--	--	--	--	--	--	58.91
	Change	0.00	0.00	-0.11	-1.00	--	--	--	--	--	--	0.00
Jhabua	2008-09	--	--	25.87	314.43	--	--	--	--	--	--	685.60
	2015-16	--	--	25.02	312.58	--	--	--	--	--	--	684.73
	Change	--	--	-0.85	-1.85	--	--	--	--	--	--	-0.87
Katni	2008-09	2.80	--	607.98	421.62	--	--	--	--	--	--	46.94
	2015-16	2.80	--	605.00	415.00	--	--	--	--	--	--	46.65
	Change	0.00	--	-2.98	-6.62	--	--	--	--	--	--	-0.29
Mandla	2008-09	2.88	--	384.08	370.24	--	--	--	--	--	--	399.84
	2015-16	2.88	--	383.91	370.19	--	--	--	--	--	--	399.84
	Change	0.00	--	-0.17	-0.04	--	--	--	--	--	--	0.00
Mandsaur	2008-09	11.37	--	60.22	491.31	--	--	--	--	--	--	207.21
	2015-16	10.41	--	55.67	429.79	--	--	--	--	--	--	203.24
	Change	-0.96	--	-4.56	-61.52	--	--	--	--	--	--	-3.97
Morena	2008-09	516.29	0.37	35.04	243.36	--	--	--	--	--	--	558.22
	2015-16	515.33	0.37	35.04	242.43	--	--	--	--	--	--	557.53
	Change	-0.97	0.00	0.00	-0.92	--	--	--	--	--	--	-0.69
Narsinghpur	2008-09	50.89	1.55	22.48	46.07	--	--	--	--	--	--	85.92
	2015-16	50.89	1.55	21.90	45.48	--	--	--	--	--	--	85.92
	Change	0.00	0.00	-0.57	-0.59	--	--	--	--	--	--	0.00

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
174.72	--	--	--	--	--	--	--	0.04	--	--	--	610.67	4068
174.72	--	--	--	--	--	--	--	0.18	--	--	--	610.68	
0.00	--	--	--	--	--	--	--	0.14	--	--	--	0.01	
30.56	0.48	--	--	--	--	--	--	1.09	--	11.05	--	570.58	7479
30.56	0.48	--	--	--	--	--	--	1.68	2.27	10.69	--	536.34	
0.00	0.00	--	--	--	--	--	--	0.59	2.27	-0.36	--	-34.24	
427.77	--	--	--	--	--	--	--	2.06	3.92	--	--	1140.32	6305
433.08	--	--	--	--	--	--	--	2.30	4.14	--	--	1110.47	
5.32	--	--	--	--	--	--	--	0.25	0.22	--	--	-29.85	
75.64	--	--	--	--	--	--	--	8.12	--	3.90	--	1041.16	5214
75.64	--	--	--	--	--	--	--	8.29	--	3.90	--	1040.35	
0.00	--	--	--	--	--	--	--	0.17	--	0.00	--	-0.81	
9.36	--	--	--	--	--	--	--	0.17	--	--	--	115.73	3330
9.86	--	--	--	--	--	--	--	0.17	--	--	--	113.67	
0.51	--	--	--	--	--	--	--	0.00	--	--	--	-2.06	
1.75	--	--	--	--	--	--	--	--	--	0.86	--	142.01	6707
1.75	--	--	--	--	--	--	--	--	--	0.86	--	141.46	
0.00	--	--	--	--	--	--	--	--	--	0.00	--	-0.55	
3.39	1.17	--	--	--	--	--	--	12.29	--	7.13	--	367.96	3898
3.39	1.17	--	--	--	--	--	--	12.52	--	7.13	--	363.02	
0.00	0.00	--	--	--	--	--	--	0.23	--	0.00	--	-4.94	
31.06	--	--	--	--	--	--	--	1.68	--	0.99	--	569.15	4026
31.06	--	--	--	--	--	--	--	1.68	--	0.62	--	567.67	
0.00	--	--	--	--	--	--	--	0.00	--	-0.36	--	-1.48	
8.13	--	--	--	--	--	--	--	1.79	--	12.21	--	1048.03	6782
8.13	--	--	--	--	--	--	--	2.13	--	12.21	--	1044.79	
0.00	--	--	--	--	--	--	--	0.34	--	0.00	--	-3.23	
14.02	--	--	--	--	--	--	--	25.05	6.25	4.28	--	1128.94	6134
14.02	--	--	--	--	--	--	--	26.00	6.25	4.03	--	1119.75	
0.00	--	--	--	--	--	--	--	0.95	0.00	-0.25	--	-9.19	
221.99	--	--	--	--	--	--	--	2.44	--	5.05	--	1386.51	9201
221.99	--	--	--	--	--	--	--	2.44	--	4.93	--	1386.18	
0.00	--	--	--	--	--	--	--	0.00	--	-0.11	--	-0.33	
--	--	--	--	--	--	--	--	6.07	0.57	0.03	--	776.79	5535
--	--	--	--	--	--	--	--	7.31	0.57	0.03	--	707.02	
--	--	--	--	--	--	--	--	1.24	0.00	0.00	--	-69.77	
12.78	--	--	--	--	--	--	--	0.30	--	2.93	--	1369.29	4988
12.78	--	--	--	--	--	--	--	0.30	--	2.93	--	1366.71	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-2.57	
1.22	--	--	0.26	--	--	--	--	1.47	--	1.68	--	211.52	5133
1.22	--	--	0.26	--	--	--	--	1.47	1.22	1.68	--	211.58	
0.00	--	--	0.00	--	--	--	--	0.00	1.22	0.00	--	0.06	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal
17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area

Madhya Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Neemuch	2008-09	2.71	--	62.10	366.80	--	--	--	--	--	--	835.05
	2015-16	2.71	--	57.10	338.48	--	--	--	--	--	--	834.78
	Change	0.00	--	-5.00	-28.32	--	--	--	--	--	--	-0.27
Panna	2008-09	2.19	--	216.16	406.60	--	--	--	--	--	--	336.70
	2015-16	2.19	--	215.92	406.45	--	--	--	--	--	--	336.33
	Change	0.00	--	-0.24	-0.15	--	--	--	--	--	--	-0.38
Raisen	2008-09	0.92	--	164.80	196.15	--	--	--	--	--	--	322.95
	2015-16	0.92	--	164.67	194.18	--	--	--	--	--	--	322.83
	Change	0.00	--	-0.13	-1.97	--	--	--	--	--	--	-0.12
Rajgarh	2008-09	8.26	--	101.17	503.15	--	--	--	--	--	--	90.04
	2015-16	8.26	--	97.74	470.09	--	--	--	--	--	--	89.68
	Change	0.00	--	-3.43	-33.06	--	--	--	--	--	--	-0.35
Ratlam	2008-09	47.18	--	133.57	309.81	--	--	--	--	--	--	213.61
	2015-16	45.01	--	121.94	295.88	--	--	--	--	--	--	208.19
	Change	-2.17	--	-11.63	-13.93	--	--	--	--	--	--	-5.42
Rewa	2008-09	8.23	--	72.68	282.20	--	--	--	--	--	--	139.87
	2015-16	8.23	--	72.68	279.45	--	--	--	--	--	--	139.87
	Change	0.00	--	0.00	-2.76	--	--	--	--	--	--	0.00
Sagar	2008-09	1.55	--	318.39	926.42	--	--	--	--	--	--	345.43
	2015-16	1.55	--	316.39	908.11	--	--	--	--	--	--	345.43
	Change	0.00	--	-2.00	-18.31	--	--	--	--	--	--	0.00
Satna	2008-09	2.77	--	165.34	310.90	--	--	--	--	--	--	207.92
	2015-16	2.75	--	165.34	309.89	--	--	--	--	--	--	207.92
	Change	-0.02	--	0.00	-1.01	--	--	--	--	--	--	0.00
Sehore	2008-09	1.37	--	63.97	155.53	--	--	--	--	--	--	227.68
	2015-16	1.37	--	61.69	151.64	--	--	--	--	--	--	227.60
	Change	0.00	--	-2.28	-3.89	--	--	--	--	--	--	-0.08
Seoni	2008-09	0.25	--	71.47	93.60	--	--	--	--	--	--	202.03
	2015-16	0.25	--	71.44	93.57	--	--	--	--	--	--	201.99
	Change	0.00	--	-0.03	-0.02	--	--	--	--	--	--	-0.05
Shahdol	2008-09	2.11	--	278.17	498.45	--	--	--	--	--	--	242.07
	2015-16	2.11	--	277.93	497.22	--	--	--	--	--	--	241.64
	Change	0.00	--	-0.24	-1.23	--	--	--	--	--	--	-0.42
Shajapur	2008-09	2.32	--	260.17	533.51	--	--	--	--	--	--	41.14
	2015-16	2.22	--	247.29	505.21	--	--	--	--	--	--	31.90
	Change	-0.10	--	-12.88	-28.30	--	--	--	--	--	--	-9.24
Sheopur	2008-09	94.69	--	107.23	376.07	--	--	--	--	--	--	1101.10
	2015-16	94.55	--	106.91	367.28	--	--	--	--	--	--	1101.10
	Change	-0.14	--	-0.32	-8.79	--	--	--	--	--	--	0.00
Shivpuri	2008-09	2.84	--	160.53	746.85	--	--	--	--	--	--	1083.00
	2015-16	2.84	--	160.20	731.71	--	--	--	--	--	--	1080.20
	Change	0.00	--	-0.33	-15.14	--	--	--	--	--	--	-2.79

Note: “--” Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
0.59	--	--	--	--	--	--	--	4.89	--	11.51	--	1283.65	4256
0.86	--	--	--	--	--	--	--	5.65	0.18	10.60	--	1250.36	
0.27	--	--	--	--	--	--	--	0.76	0.18	-0.91	--	-33.29	
203.11	--	--	--	--	--	--	--	4.32	--	0.02	--	1169.10	7135
203.11	--	--	--	--	--	--	--	4.32	--	0.02	--	1168.34	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.76	
14.72	--	--	--	--	--	--	--	4.41	1.48	11.32	--	716.74	8466
14.72	--	--	--	--	--	--	--	4.57	1.98	11.01	--	714.86	
0.00	--	--	--	--	--	--	--	0.16	0.50	-0.31	--	-1.87	
0.19	--	--	--	--	--	--	--	0.92	--	0.08	--	703.80	6154
0.19	--	--	--	--	--	--	--	1.78	0.61	0.08	--	668.43	
0.00	--	--	--	--	--	--	--	0.86	0.61	0.00	--	-35.37	
1.28	1.63	--	--	--	--	--	--	4.16	--	6.31	--	717.56	4861
1.28	1.63	--	--	--	--	--	--	4.56	--	5.56	--	684.05	
0.00	0.00	--	--	--	--	--	--	0.39	--	-0.75	--	-33.50	
23.74	--	--	--	--	--	--	--	9.50	0.40	24.79	--	561.41	6314
23.74	--	--	--	--	--	--	--	12.26	0.40	23.90	--	560.53	
0.00	--	--	--	--	--	--	--	2.77	0.00	-0.89	--	-0.88	
45.27	--	--	--	--	--	--	--	10.38	3.16	2.44	--	1653.04	10252
45.27	--	--	--	--	--	--	--	11.33	9.24	2.44	--	1639.76	
0.00	--	--	--	--	--	--	--	0.95	6.08	0.00	--	-13.28	
150.18	--	--	--	--	--	--	--	17.72	1.04	13.22	--	869.09	7502
150.10	--	--	--	--	--	--	--	21.89	1.04	13.22	--	872.15	
-0.08	--	--	--	--	--	--	--	4.16	0.00	0.00	--	3.06	
18.18	--	--	--	--	--	--	--	1.84	--	0.45	--	469.02	6578
18.18	--	--	--	--	--	--	--	2.02	--	0.45	--	462.94	
0.00	--	--	--	--	--	--	--	0.18	--	0.00	--	-6.08	
3.68	--	--	--	--	--	--	--	1.61	--	0.91	--	373.55	8758
3.68	--	--	--	--	--	--	--	1.61	--	0.91	--	373.45	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.10	
220.35	--	--	--	--	--	--	--	4.27	0.88	28.23	--	1274.53	8264
220.35	--	--	--	--	--	--	--	4.51	1.44	28.23	--	1273.44	
0.00	--	--	--	--	--	--	--	0.24	0.57	0.00	--	-1.09	
0.32	--	--	--	--	--	--	--	4.24	1.14	5.99	--	848.84	6196
0.32	--	--	--	--	--	--	--	4.78	1.14	5.99	--	798.86	
0.00	--	--	--	--	--	--	--	0.54	0.00	0.00	--	-49.98	
98.43	--	--	2.29	--	--	--	--	1.36	--	0.55	--	1781.73	6606
98.43	--	--	2.29	--	--	--	--	1.36	--	0.55	--	1772.48	
0.00	--	--	0.00	--	--	--	--	0.00	--	0.00	--	-9.25	
161.51	--	--	--	--	--	--	--	1.19	--	5.72	--	2161.64	10278
162.53	--	--	--	--	--	--	--	1.22	--	5.72	--	2144.42	
1.01	--	--	--	--	--	--	--	0.03	--	0.00	--	-17.21	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal
17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area

Madhya Pradesh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Sidhi	2008-09	20.59	--	567.08	498.94	--	--	--	--	--	--	431.96
	2015-16	20.59	--	564.74	493.59	--	--	--	--	--	--	426.59
	Change	0.00	--	-2.34	-5.35	--	--	--	--	--	--	-5.37
Tikamgarh	2008-09	6.20	--	29.48	322.82	--	--	--	--	--	--	191.54
	2015-16	6.20	--	29.48	321.62	--	--	--	--	--	--	192.04
	Change	0.00	--	0.00	-1.21	--	--	--	--	--	--	0.50
Ujjain	2008-09	15.35	--	325.20	183.89	--	--	--	--	--	--	6.65
	2015-16	15.35	--	320.48	181.84	--	--	--	--	--	--	6.65
	Change	0.00	--	-4.72	-2.05	--	--	--	--	--	--	0.00
Umaria	2008-09	6.25	--	204.66	250.53	--	--	--	--	--	--	81.06
	2015-16	6.25	--	205.08	249.94	--	--	--	--	--	--	80.94
	Change	0.00	--	0.42	-0.59	--	--	--	--	--	--	-0.12
Vidisha	2008-09	2.16	--	138.27	227.51	--	--	--	--	--	--	165.82
	2015-16	1.82	--	133.71	217.55	--	--	--	--	--	--	165.03
	Change	-0.34	--	-4.56	-9.96	--	--	--	--	--	--	-0.79
West Nimar	2008-09	19.23	--	27.18	572.25	--	--	--	--	--	--	618.86
	2015-16	19.23	--	26.95	567.65	--	--	--	--	--	--	614.92
	Change	0.00	--	-0.23	-4.60	--	--	--	--	--	--	-3.94
Grand Total	2008-09	1476.51	11.42	6605.33	14529.84	--	--	--	--	--	--	13389.45
	2015-16	1471.60	11.42	6533.55	14187.94	--	--	--	--	--	--	13320.82
	Change	-4.91	0.00	-71.78	-341.90	--	--	--	--	--	--	-68.63

Note: “--” Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

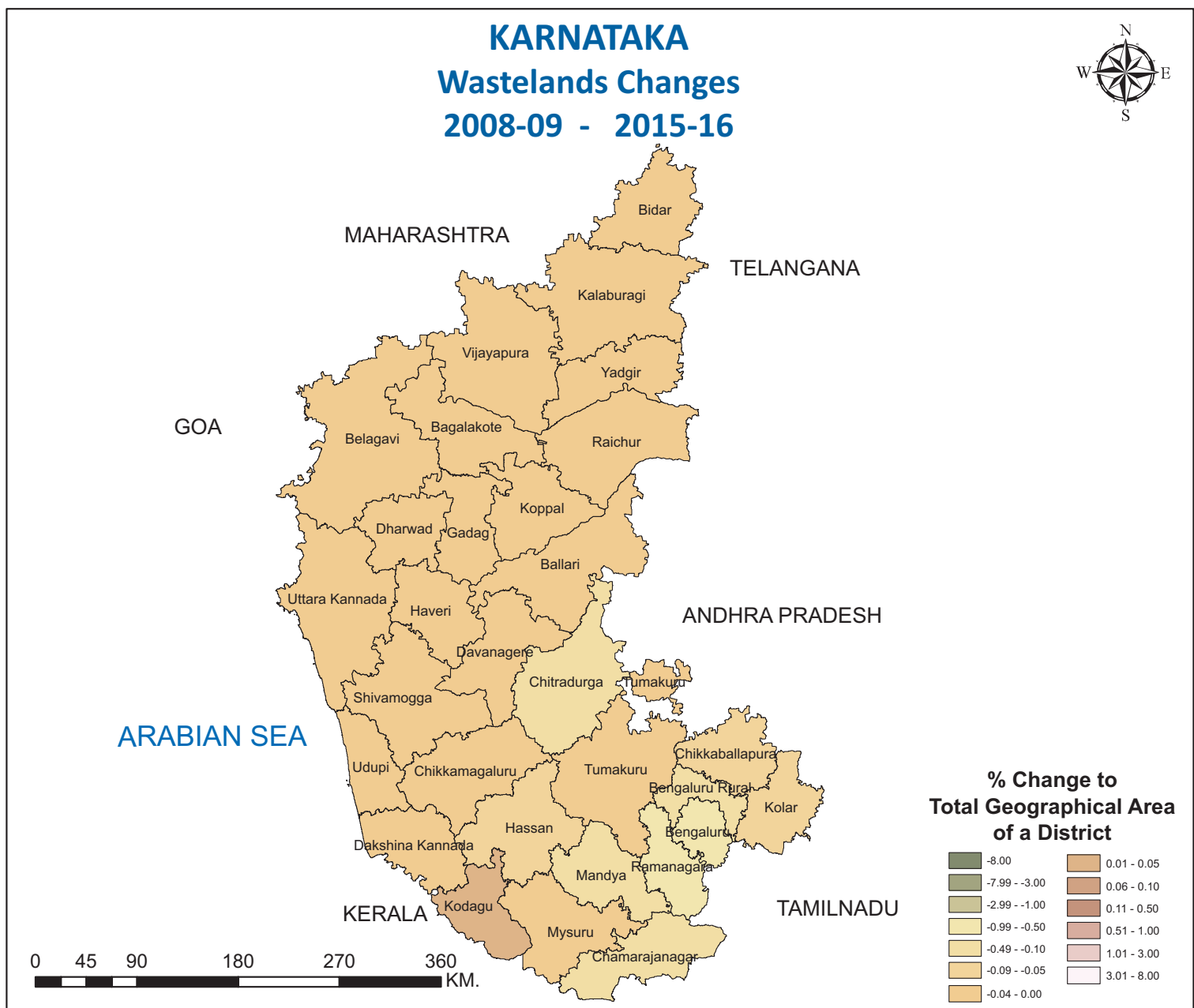
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
188.11	--	--	--	--	--	--	--	52.69	2.38	7.51	--	1769.26	10526
186.04	--	--	--	--	--	--	--	80.65	9.59	7.51	--	1789.32	
-2.06	--	--	--	--	--	--	--	27.96	7.22	0.00	--	20.06	
116.41	--	--	--	--	--	--	--	2.75	0.12	1.09	--	670.41	5048
116.35	--	--	--	--	--	--	--	2.75	0.12	1.09	--	669.64	
-0.06	--	--	--	--	--	--	--	0.00	0.00	0.00	--	-0.76	
--	6.93	--	--	--	--	--	--	6.01	0.44	0.50	--	544.96	6091
--	5.77	--	--	--	--	--	--	6.93	0.59	0.50	--	538.10	
--	-1.15	--	--	--	--	--	--	0.92	0.15	0.00	--	-6.86	
71.68	--	--	0.42	--	--	--	--	1.83	--	--	--	616.42	3679
71.68	--	--	0.42	--	--	--	--	2.49	--	--	--	616.78	
0.00	--	--	0.00	--	--	--	--	0.66	--	--	--	0.37	
10.04	--	--	--	--	--	--	--	5.83	0.84	4.07	--	554.54	7371
10.44	--	--	--	--	--	--	--	6.95	0.84	2.53	--	538.85	
0.40	--	--	--	--	--	--	--	1.11	0.00	-1.54	--	-15.69	
134.70	--	--	--	--	--	--	--	1.48	--	28.99	--	1402.69	8028
134.70	--	--	--	--	--	--	--	2.25	--	28.71	--	1394.41	
0.00	--	--	--	--	--	--	--	0.77	--	-0.28	--	-8.28	
3359.86	13.72	--	3.30	--	--	--	--	266.81	27.57	250.82	--	39934.63	308252
3368.09	12.57	--	3.30	--	--	--	--	321.37	60.97	244.99	--	39536.62	
8.23	-1.15	--	0.00	--	--	--	--	54.56	33.40	-5.82	--	-398.00	

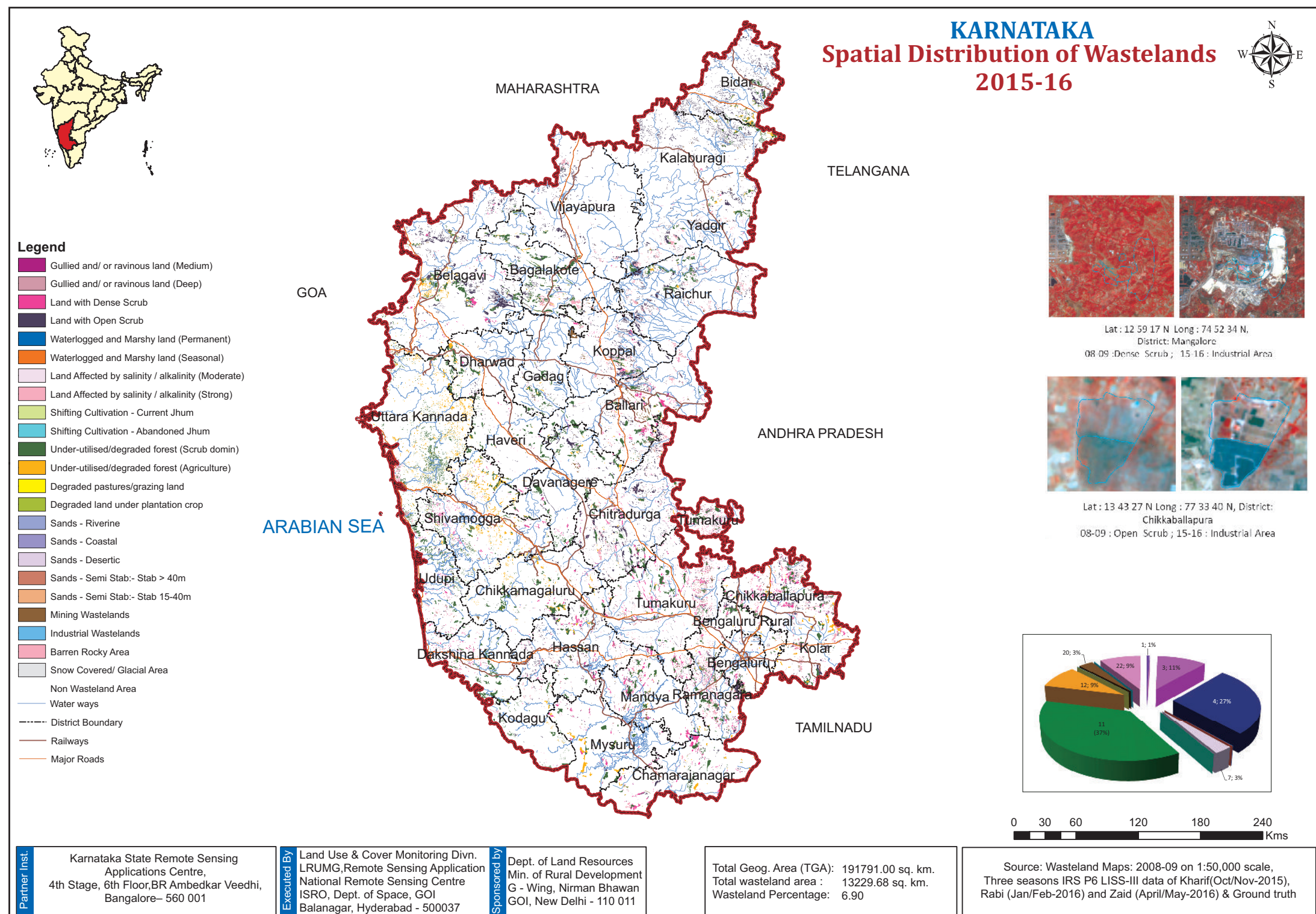
TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Decrease in wastelands area by 99.94 sq. km. is observed.
- Decrease in area under **land with dense scrub** by 114.58 sq. km.; **Land affected by salinity/alkalinity (Medium)** decreased by 3.45 sq. km.; whereas **Land affected by salinity/alkalinity (strong)** increased by 1.18 sq. km.
- In Chitradurga district, wastelands area decreased by 30.52 sq. km. which was mainly contributed by **land with dense scrub category**.
- In Ramanagara district, wastelands area reduced by 17.82 sq. km.
- 55.39 sq. km. of wastelands area converted to cropland primarily from **land with dense scrub** (9.28 sq. km.) and **land with open scrub** (46.11 sq. km.).



KARNATAKA

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Category	WL during 2008-09 remaining as WL in 2015-16																		WL 2008-09 becoming non_ WL in 2015-16						2008-09	
	1	2	3	4	5	6	7	8	11	12	14	15	16	18	20	21	22	24	25	26	27	28	29	30	Category Total	Grand Total
1	78.00		0.13	1.24			0.06		0.07																79.50	13329.62
2		0.14																							0.14	
3			1419.96	88.46			1.03			0.26					0.01	0.11		1.66	0.13	9.28	9.22	2.34	0.38	8.87	1541.69	
4			5.73	3477.47			2.51		0.07						7.94	0.14		7.45	0.37	46.11	9.25	4.22	0.01	0.62	3561.89	
5					12.03																				12.03	
6						9.90																			9.90	
7	2.19		0.51	3.90			390.27	0.65																	397.52	
8								3.10																	3.10	
9			0.13																						0.13	
11									4920.86																4920.86	
12									7.45	1193.64															1201.08	
14											6.36														6.36	
15			0.10	0.05			0.20	0.54				5.70													6.59	
16									0.03				2.89												2.92	
18														0.92											0.92	
20			0.54	0.06											404.40										405.01	
21																6.37									6.37	
22															0.30		1173.27		0.03						1173.60	
999																										
Category Total (2015-16)	80.19	0.14	1427.11	3571.17	12.03	9.90	394.07	4.29	4928.49	1193.89	6.36	5.70	2.89	0.92	412.65	6.61	1173.27	9.11	0.54	55.39	18.47	6.56	0.39	9.48		
Grand Total (2015-16)	13229.68																									

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1				
2				
3	31.87	148		
4	68.04	217		
5				
6				
7				
8				
9				
11				
12				
14				
15				
16				
18				
20				
21				
22	0.03	1		
Total	99.94	366		

Wastelands becoming Non-wastelands (-) 99.94
 Non-wastelands becoming Wastelands (+) 0.00
 NET Change (2015 - 16) - (2008 - 09) (-) 99.94

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Karnataka

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Bagalakote	2008-09	2.23	--	0.76	121.48	--	4.76	7.45	--	--	--	354.83
	2015-16	2.23	--	0.05	120.29	--	4.76	7.61	0.54	--	--	354.90
	Change	0.00	--	-0.72	-1.18	--	0.00	0.16	0.54	--	--	0.07
Ballari	2008-09	14.78	--	120.79	157.22	--	--	32.04	0.30	--	--	229.62
	2015-16	14.86	--	118.52	155.98	--	--	31.68	0.30	--	--	231.84
	Change	0.08	--	-2.27	-1.24	--	--	-0.37	0.00	--	--	2.22
Belagavi	2008-09	1.54	0.14	111.32	486.15	--	0.10	2.45	--	--	--	294.55
	2015-16	1.54	0.14	79.63	514.22	--	0.10	2.36	--	--	--	295.59
	Change	0.00	0.00	-31.69	28.08	--	0.00	-0.09	--	--	--	1.05
Bengaluru	2008-09	1.07	--	23.87	44.31	--	0.21	--	--	--	--	37.48
	2015-16	0.95	--	22.00	29.34	--	0.21	--	--	--	--	37.56
	Change	-0.12	--	-1.87	-14.97	--	0.00	--	--	--	--	0.07
Bengaluru Rural	2008-09	4.34	--	13.93	24.54	--	0.53	--	--	--	--	81.06
	2015-16	3.96	--	13.31	22.81	--	0.53	0.08	--	--	--	81.06
	Change	-0.38	--	-0.62	-1.73	--	0.00	0.08	0.00	--	--	0.00
Bidar	2008-09	--	--	2.81	264.14	--	--	--	0.36	--	--	106.55
	2015-16	--	--	0.28	265.55	--	--	--	0.36	--	--	106.87
	Change	--	--	-2.53	1.41	--	--	--	0.00	--	--	0.31
Chamaraja nagar	2008-09	1.20	--	129.74	51.28	--	--	11.68	--	--	--	118.89
	2015-16	1.23	--	117.34	56.18	--	--	11.90	--	--	--	118.89
	Change	0.03	--	-12.41	4.90	--	--	0.22	--	--	--	0.00
Chikka ballapura	2008-09	11.36	--	134.56	149.62	--	--	1.49	--	--	--	132.62
	2015-16	11.43	--	136.99	144.94	--	--	1.51	--	--	--	132.62
	Change	0.07	--	2.43	-4.68	--	--	0.02	--	--	--	0.00
Chikkama galuru	2008-09	4.96	--	22.29	15.33	--	--	3.62	--	--	--	175.94
	2015-16	4.98	--	16.77	17.09	--	--	3.72	--	--	--	176.88
	Change	0.01	--	-5.52	1.77	--	--	0.10	--	--	--	0.95
Chitradurga	2008-09	8.25	--	109.99	425.64	--	--	71.88	0.98	--	--	183.13
	2015-16	8.27	--	76.66	429.90	--	--	70.84	0.98	--	--	183.13
	Change	0.02	--	-33.33	4.26	--	--	-1.04	0.00	--	--	0.00
Dakshina Kannada	2008-09	--	--	31.26	15.13	1.16	1.11	--	--	--	--	251.36
	2015-16	--	--	31.13	15.07	1.16	1.11	--	--	--	--	251.36
	Change	--	--	-0.13	-0.07	0.00	0.00	--	--	--	--	0.00
Davanagere	2008-09	3.93	--	24.02	109.66	--	--	16.32	--	--	--	267.15
	2015-16	4.13	--	24.01	107.99	--	--	15.80	--	--	--	267.38
	Change	0.20	--	-0.01	-1.67	--	--	-0.52	--	--	--	0.23
Dharwad	2008-09	0.07	--	9.64	27.32	--	--	--	--	--	--	126.20
	2015-16	0.07	--	9.64	27.01	--	--	--	--	--	--	126.20
	Change	0.00	--	0.00	-0.31	--	--	--	--	--	--	0.00
Gadag	2008-09	3.42	--	8.97	35.98	--	0.00	3.61	--	--	--	106.89
	2015-16	3.42	--	8.97	35.98	--	0.00	3.61	--	--	--	106.89
	Change	0.00	--	0.00	0.00	--	0.00	0.00	--	--	--	0.00

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
20.84	--	--	0.70	--	--	--	--	7.80	--	84.42	--	605.26	6575
21.09	--	--	--	--	--	--	--	7.80	--	84.42	--	603.69	
0.26	--	--	-0.70	--	--	--	--	0.00	--	0.00	--	-1.57	
14.07	--	0.21	0.93	--	--	--	--	67.97	0.97	76.74	--	715.65	8419
11.85	--	0.21	0.93	--	--	--	--	68.00	0.97	76.74	--	711.88	
-2.22	--	0.00	0.00	--	--	--	--	0.03	0.00	0.00	--	-3.77	
95.40	--	--	--	--	--	--	--	8.23	0.34	1.36	--	1001.57	13415
94.35	--	--	--	--	--	--	--	9.58	0.34	1.36	--	999.22	
-1.05	--	--	--	--	--	--	--	1.35	0.00	0.00	--	-2.35	
4.41	--	--	--	--	--	--	--	16.04	--	2.06	--	129.46	2190
4.41	--	--	--	--	--	--	--	17.62	--	2.06	--	114.15	
0.00	--	--	--	--	--	--	--	1.58	--	0.00	--	-15.31	
15.28	--	--	--	--	--	--	--	4.30	--	13.33	--	157.31	2303
15.28	--	--	--	--	--	--	--	4.35	--	13.33	--	154.71	
0.00	--	--	--	--	--	--	--	0.05	--	0.00	--	-2.59	
26.22	--	--	--	--	--	--	--	1.95	--	0.50	--	402.54	5448
25.91	--	--	--	--	--	--	--	2.08	--	0.50	--	401.55	
-0.31	--	--	--	--	--	--	--	0.13	--	0.00	--	-0.99	
43.76	--	--	0.23	--	--	--	--	7.48	--	21.44	--	385.71	5685
43.76	--	--	0.23	--	--	--	--	7.48	--	21.44	--	378.45	
0.00	--	--	0.00	--	--	--	--	0.00	--	0.00	--	-7.26	
16.03	--	--	--	--	--	--	--	14.45	--	108.47	--	568.60	4246
16.03	--	--	--	--	--	--	--	14.45	--	108.47	--	566.44	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-2.16	
90.58	--	--	1.13	--	--	--	--	7.75	--	8.43	--	330.04	7201
89.63	--	--	1.13	--	--	--	--	8.67	--	8.43	--	327.31	
-0.95	--	--	0.00	--	--	--	--	0.92	--	0.00	--	-2.72	
21.86	--	--	--	--	--	--	--	15.07	--	109.62	--	946.42	8440
21.86	--	--	--	--	--	--	--	14.64	--	109.62	--	915.90	
0.00	--	--	--	--	--	--	--	-0.43	--	0.00	--	-30.52	
0.84	--	--	1.11	0.09	--	--	--	3.93	0.45	15.84	--	322.27	4843
0.84	--	--	1.11	0.09	--	--	--	3.97	0.55	15.84	--	322.21	
0.00	--	--	0.00	0.00	--	--	--	0.04	0.11	0.00	--	-0.05	
27.27	--	--	0.00	--	--	--	--	10.54	--	4.19	--	463.07	5966
27.04	--	--	0.00	--	--	--	--	12.53	--	4.19	--	463.07	
-0.23	--	--	0.00	--	--	--	--	1.99	--	0.00	--	-0.01	
36.45	--	--	--	--	--	--	--	4.33	--	0.03	--	204.04	4230
36.45	--	--	--	--	--	--	--	4.33	--	0.03	--	203.73	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.31	
9.10	--	--	--	--	--	--	--	4.93	--	13.00	--	185.90	4657
9.10	--	--	--	--	--	--	--	4.93	--	13.00	--	185.90	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	0.00	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Karnataka contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Hassan	2008-09	1.26	--	91.21	134.10	--	0.16	0.02	--	--	--	122.29
	2015-16	1.26	--	81.51	139.94	--	0.16	0.03	--	--	--	122.29
	Change	0.00	--	-9.71	5.84	--	0.00	0.01	--	--	--	0.00
Haveri	2008-09	2.48	--	10.34	19.38	--	--	--	--	--	--	128.91
	2015-16	2.48	--	10.15	19.38	--	--	--	--	--	--	128.91
	Change	0.00	--	-0.18	0.00	--	--	--	--	--	--	0.00
Kalaburagi	2008-09	2.33	--	5.25	290.52	--	--	6.96	--	--	--	130.87
	2015-16	2.33	--	4.54	291.09	--	--	6.96	--	--	--	130.87
	Change	0.00	--	-0.71	0.57	--	--	0.00	--	--	--	0.00
Kodagu	2008-09	--	--	2.24	6.01	--	--	--	--	--	--	83.98
	2015-16	--	--	2.24	5.98	--	--	--	--	--	--	83.98
	Change	--	--	0.00	-0.03	--	--	--	--	--	--	0.00
Kolar	2008-09	6.85	--	43.55	70.80	--	--	0.94	--	--	--	136.07
	2015-16	6.43	--	40.54	72.06	--	--	--	--	--	--	136.07
	Change	-0.42	--	-3.01	1.26	--	--	-0.94	--	--	--	0.00
Koppal	2008-09	0.12	--	42.10	240.84	--	--	52.49	1.11	--	--	90.17
	2015-16	0.12	--	42.10	240.84	--	--	52.49	1.11	--	--	90.17
	Change	0.00	--	0.00	0.00	--	--	0.00	0.00	--	--	0.00
Mandya	2008-09	0.46	--	122.31	47.31	--	--	0.44	--	--	--	129.39
	2015-16	0.41	--	120.66	43.83	--	--	0.55	--	--	--	129.39
	Change	-0.05	--	-1.65	-3.48	--	--	0.11	--	--	--	0.00
Mysuru	2008-09	1.00	--	61.56	24.33	--	--	4.13	--	--	--	116.31
	2015-16	1.00	--	60.40	25.26	--	--	4.14	--	--	--	116.31
	Change	0.00	--	-1.17	0.93	--	--	0.01	--	--	--	0.00
Raichur	2008-09	0.21	--	3.33	193.15	--	--	50.98	0.03	--	--	123.21
	2015-16	0.21	--	2.27	194.20	--	--	50.70	0.14	--	--	123.21
	Change	0.00	--	-1.06	1.05	--	--	-0.29	0.11	--	--	0.00
Ramanagara	2008-09	1.22	--	69.32	130.10	--	--	0.27	--	--	--	179.82
	2015-16	1.18	--	68.40	112.65	--	--	0.34	--	--	--	179.82
	Change	-0.04	--	-0.92	-17.45	--	--	0.07	--	--	--	0.00
Shivamogga	2008-09	--	--	74.20	30.44	--	--	--	--	0.13	--	212.48
	2015-16	--	--	73.37	31.35	0.00	--	--	--	--	--	212.90
	Change	--	--	-0.83	0.91	0.00	--	--	--	-0.13	--	0.43
Tumakuru	2008-09	1.52	--	234.07	145.46	0.04	--	21.07	--	--	--	316.20
	2015-16	3.14	--	232.97	145.83	0.04	--	19.28	0.54	--	--	316.20
	Change	1.62	--	-1.10	0.37	0.00	--	-1.79	0.54	--	--	0.00
Udupi	2008-09	--	--	19.15	18.95	2.28	--	--	--	--	--	201.22
	2015-16	--	--	18.33	19.61	2.28	--	--	--	--	--	201.30
	Change	--	--	-0.82	0.67	0.00	--	--	--	--	--	0.08
Uttara Kannada	2008-09	--	--	13.00	3.87	8.56	2.27	--	--	--	--	368.06
	2015-16	--	--	12.91	3.96	8.56	2.27	--	--	--	--	370.28
	Change	--	--	-0.09	0.09	0.00	0.00	--	--	--	--	2.22

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

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|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
22.30	--	0.38	--	--	--	--	--	9.12	--	17.14	--	397.98	6814
22.30	--	0.38	--	--	--	--	--	9.26	0.11	17.14	--	394.37	
0.00	--	0.00	--	--	--	--	--	0.14	0.11	0.00	--	-3.61	
15.87	--	--	0.00	--	--	--	--	3.27	0.43	0.26	--	180.93	4851
15.87	--	--	0.00	--	--	--	--	3.27	0.43	0.26	--	180.75	
0.00	--	--	0.00	--	--	--	--	0.00	0.00	0.00	--	-0.18	
37.61	--	--	--	--	--	--	--	36.67	2.83	8.09	--	521.13	10942
37.61	--	--	--	--	--	--	--	36.67	2.83	8.09	--	520.99	
0.00	--	--	--	--	--	--	--	0.00	0.00	0.00	--	-0.13	
10.92	--	2.74	--	--	--	--	--	0.42	--	18.56	--	124.87	4102
10.92	--	2.74	--	--	--	--	--	0.45	--	18.56	--	124.87	
0.00	--	0.00	--	--	--	--	--	0.03	--	0.00	--	0.00	
87.90	--	--	--	--	--	0.92	--	10.89	0.39	71.36	--	429.65	3986
87.90	--	--	--	--	--	0.92	--	10.99	0.39	71.36	--	426.63	
0.00	--	--	--	--	--	0.00	--	0.10	0.00	0.00	--	-3.02	
5.04	--	--	--	--	--	--	--	80.47	0.17	63.44	--	575.96	7189
5.04	--	--	--	--	--	--	--	80.47	0.17	63.44	--	575.96	
0.00	--	--	--	--	--	--	--	0.00	0.00	0.00	--	0.00	
8.56	--	--	0.17	--	--	--	--	19.73	--	19.95	--	348.34	4961
8.56	--	--	--	--	--	--	--	19.92	--	19.95	--	343.29	
0.00	--	--	-0.17	--	--	--	--	0.19	--	0.00	--	-5.05	
90.05	--	--	0.54	--	--	--	--	2.67	--	3.72	--	304.33	6269
90.05	--	--	0.53	--	--	--	--	2.80	--	3.72	--	304.21	
0.00	--	--	-0.01	--	--	--	--	0.12	--	0.00	--	-0.11	
9.11	--	--	0.47	--	--	--	--	5.41	--	84.83	--	470.74	6828
9.11	--	--	0.47	--	--	--	--	5.52	--	84.83	--	470.65	
0.00	--	--	0.00	--	--	--	--	0.11	--	0.00	--	-0.09	
13.46	--	--	--	--	--	--	--	14.68	0.07	100.84	--	509.79	3511
13.46	--	--	--	--	--	--	--	15.53	0.07	100.51	--	491.97	
0.00	--	--	--	--	--	--	--	0.85	0.00	-0.33	--	-17.82	
232.15	--	0.08	1.30	--	--	--	--	2.90	--	4.95	--	558.63	8465
231.73	--	0.08	1.30	--	--	--	--	2.90	--	4.95	--	558.58	
-0.43	--	0.00	0.00	--	--	--	--	0.00	--	0.00	--	-0.05	
6.21	--	--	--	--	--	--	--	28.95	0.07	135.84	--	889.44	10598
6.21	--	--	--	--	--	--	--	29.09	0.09	135.84	--	889.23	
0.00	--	--	--	--	--	--	--	0.14	0.03	0.00	--	-0.21	
10.20	--	2.96	--	0.52	--	--	--	1.68	0.42	24.21	--	281.57	3598
10.12	--	2.96	--	0.52	--	--	--	1.80	0.42	24.21	--	281.54	
-0.08	--	0.00	--	0.00	--	--	--	0.13	0.00	0.00	--	-0.03	
220.05	--	--	--	2.32	--	--	--	1.37	0.02	57.07	--	676.58	10291
217.86	--	--	--	2.28	--	--	--	1.37	0.02	57.07	--	676.58	
-2.19	--	--	--	-0.03	--	--	--	0.00	0.00	0.00	--	0.00	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Karnataka contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Vijayapura	2008-09	3.77	--	3.90	145.81	--	--	1.34	--	--	--	14.36
	2015-16	3.45	--	0.29	149.60	--	--	1.34	--	--	--	14.36
	Change	-0.32	--	-3.61	3.79	--	--	0.00	--	--	--	0.00
Yadgir	2008-09	1.13	--	2.20	133.02	--	0.77	108.34	0.34	--	--	101.26
	2015-16	1.13	--	1.14	133.23	--	0.77	109.15	0.34	--	--	101.26
	Change	0.00	--	-1.06	0.21	--	0.00	0.81	0.00	--	--	0.00
Grand Total	2008-09	79.50	0.14	1541.69	3561.89	12.03	9.90	397.52	3.10	0.13	--	4920.86
	2015-16	80.19	0.14	1427.11	3571.17	12.03	9.90	394.07	4.29	--	--	4928.49
	Change	0.69	0.00	-114.58	9.28	0.00	0.00	-3.45	1.18	-0.13	--	7.62

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

Karnataka contd...

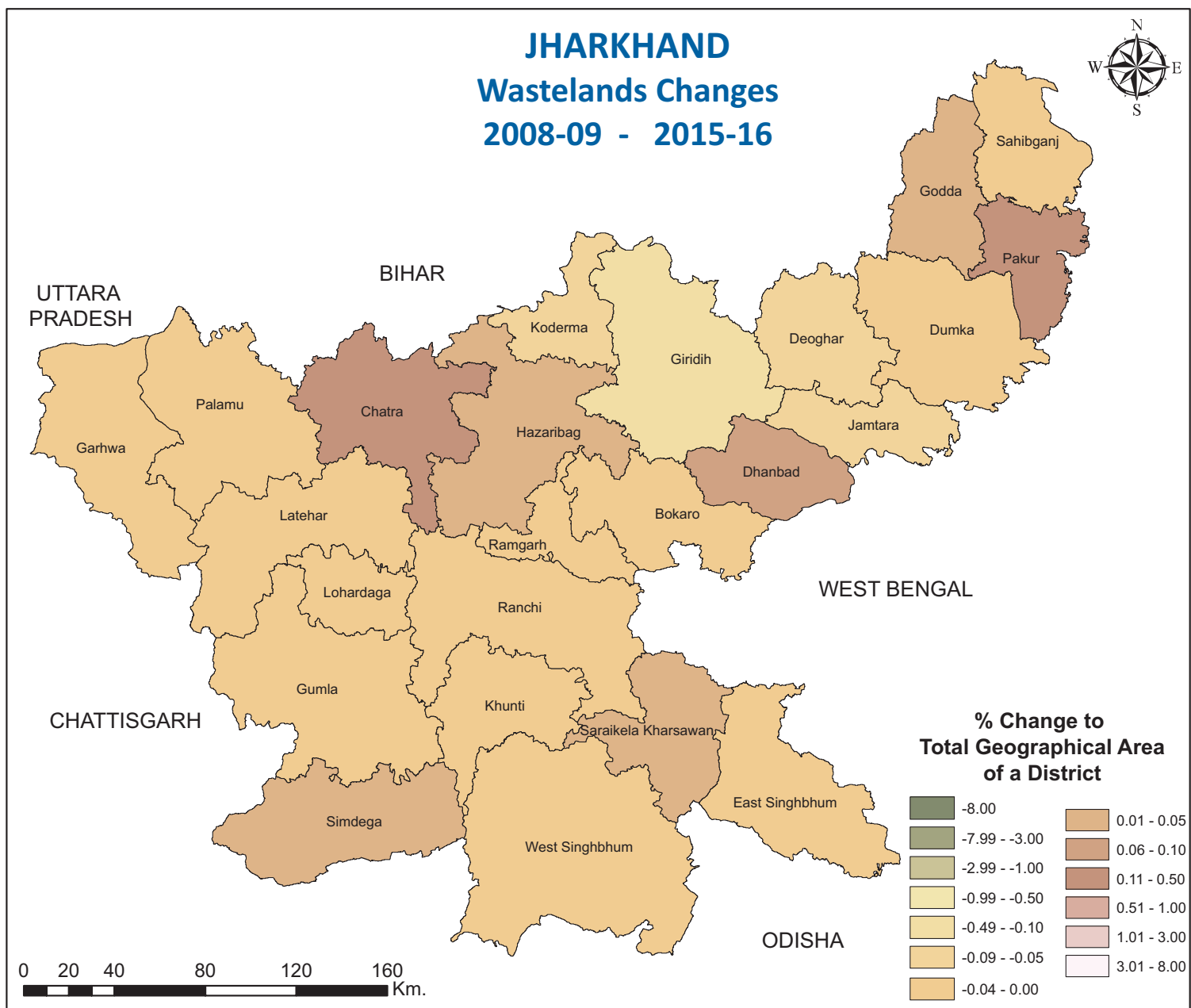
Wastelands Area Changes – 2008-09 and 2015-16

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
1.44	--	--	--	--	--	--	--	7.62	0.13	35.41	--	213.78	10494
1.44	--	--	--	--	--	--	--	7.76	0.13	35.41	--	213.78	
0.00	--	--	--	--	--	--	--	0.14	0.00	0.00	--	0.00	
8.10	--	--	0.00	--	--	--	--	4.37	0.09	68.47	--	428.07	5274
8.10	--	--	0.00	--	--	--	--	4.40	0.09	68.47	--	428.07	
0.00	--	--	0.00	--	--	--	--	0.04	0.00	0.00	--	0.00	
1201.08	--	6.36	6.59	2.92	--	0.92	--	405.01	6.37	1173.60	--	13329.62	191791
1193.89	--	6.36	5.70	2.89	--	0.92	--	412.65	6.61	1173.27	--	13229.68	
-7.19	--	0.00	-0.88	-0.03	--	0.00	--	7.64	0.24	-0.33	--	-99.94	

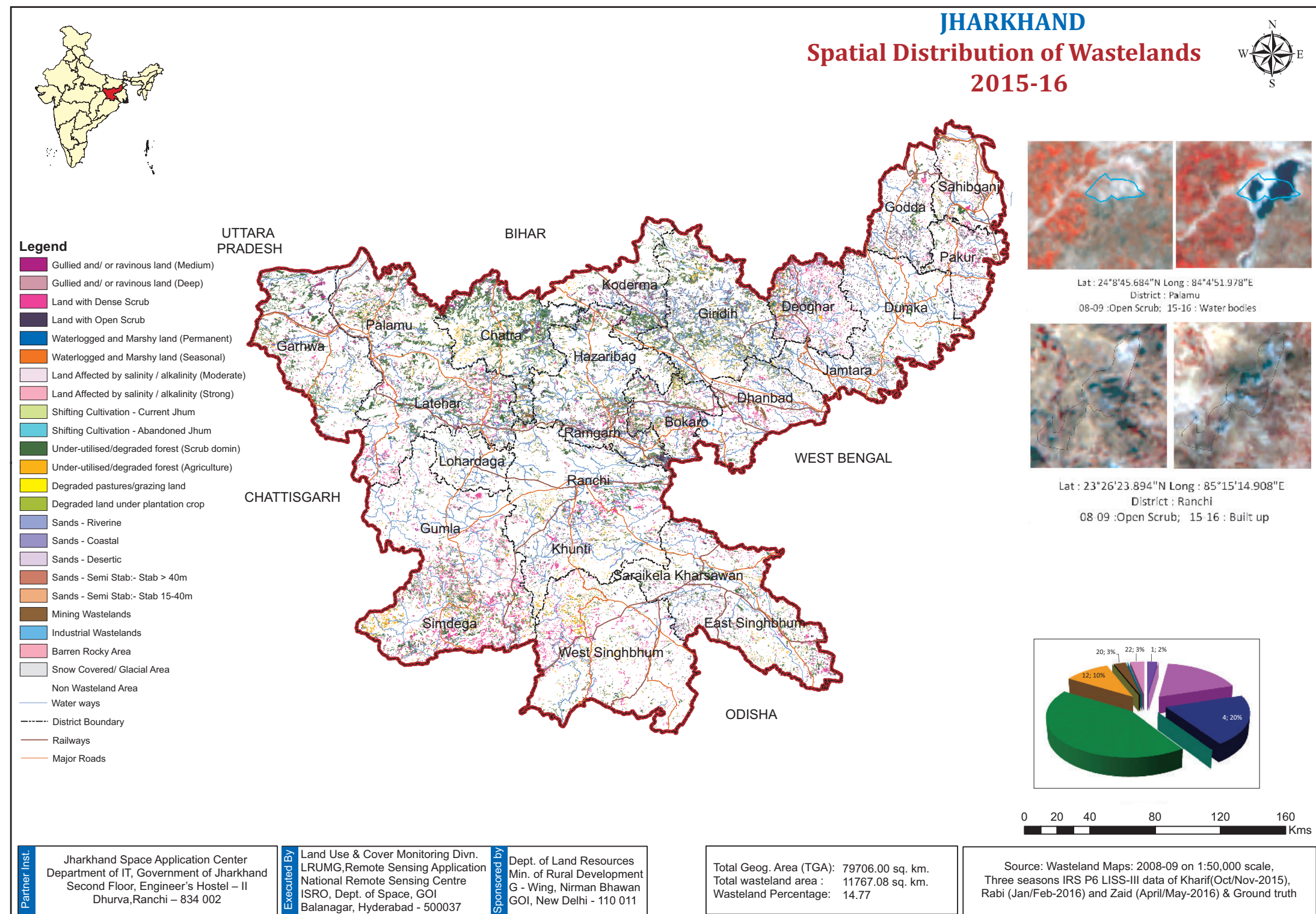
TGA - Total Geographical Area

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Decrease in wastelands area by 7.28 sq. km.
- **Under-utilized/degraded forest (Scrub dominated)** has decreased by 47.94 sq. km.; Wastelands area under **barren rocky** category has decreased by 22.13 sq. km.
- Increase of 63.64 sq. km. area under **mining wastelands**;
- Giridih district witnessed decrease in wastelands area by 7.85 sq. km.; **land with open scrub** area decreased by 4.47 sq. km. under this district.
- Ranchi district observed decrease in wastelands area by 3.69 sq. km.;
- Chatra and Dhanbad districts witnessed increase in **mining wastelands** by 7.70 sq. km. and 5.05 sq. km. respectively.
- An area of 8.75 sq. km. area converted from wastelands to forest plantation and 8.34 sq. km. to agricultural plantations.



JHARKHAND

Wastelands Area Change Matrix : 2008-09 and 2015-16

WL Category	WL during 2008-09 remaining as WL in 2015-16													WL 2008-09 becoming non_WL in 2015-16								2008-09	
	1	2	3	4	5	6	11	12	14	15	20	21	22	24	25	26	27	28	29	30	32	Category Total	Grand Total
1	270.02													0.07		0.37		0.07		0.18		270.70	11774.36
2		0.90																				0.90	
3			2095.65	0.57							3.59			0.51	1.11			0.73			0.80	2102.97	
4			0.41	2399.08							4.34	1.24		3.32	2.35	0.44		7.26		0.45	1.60	2420.50	
5					0.11						0.15											0.26	
6						0.15																0.15	
11							5072.65	23.36			16.55	0.28			0.21			0.29		7.86	0.13	5121.33	
12								1184.09			0.52									0.26	0.06	1184.93	
14									5.31													5.31	
15										0.02												0.02	
20											252.69			0.19	0.15							253.03	
21												20.02										20.02	
22											22.27		371.97									394.24	
999			0.88	0.28			0.74	0.06	0.98		16.55	1.50	0.14										
Category Total (2015-16)	270.02	0.90	2096.95	2399.93	0.11	0.15	5073.39	1207.51	6.29	0.02	316.66	23.04	372.11	4.08	3.82	0.81		8.34		8.75	2.59		
Grand Total (2015-16)	11767.08																						

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	0.68	9		
2				
3	3.16	37	0.88	7
4	15.42	174	0.28	4
5				
6				
11	8.49	59	0.74	1
12	0.32	4	0.06	2
14			0.98	13
15				
20	0.34	3	16.55	77
21			1.50	8
22			0.14	1
Total	28.40	283	21.12	113

Wastelands becoming Non-wastelands (-) 28.40
 Non-wastelands becoming Wastelands (+) 21.12
 NET Change (2015 - 16) - (2008 - 09) (-) 7.28

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes				Non-Wasteland Classes			
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic		24. Built-up			
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m		25. Industrial Area			
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m		26. Cropland			
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands		27. Fallow Land			
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands		28. Plantation			
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste		29. Forest-Dense/Open			
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area		30. Forest Plantation			
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area		31. Grasslands			
				32. Waterbodies			

Jharkhand

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Bokaro	2008-09	1.48	--	148.13	115.78	--	--	--	--	--	--	223.30
	2015-16	1.48	--	148.29	115.21	--	--	--	--	--	--	222.46
	Change	0.00	--	0.16	-0.56	--	--	--	--	--	--	-0.83
Chatra	2008-09	49.81	--	6.43	131.72	--	--	--	--	--	--	774.50
	2015-16	49.81	--	6.43	130.91	--	--	--	--	--	--	771.67
	Change	0.00	--	0.00	-0.81	--	--	--	--	--	--	-2.83
Deoghar	2008-09	20.09	--	170.63	152.40	--	--	--	--	--	--	117.60
	2015-16	20.09	--	170.55	151.43	--	--	--	--	--	--	117.41
	Change	0.00	--	-0.09	-0.97	--	--	--	--	--	--	-0.19
Dhanbad	2008-09	0.40	--	123.84	106.43	0.15	--	--	--	--	--	76.52
	2015-16	0.40	--	122.90	104.55	--	--	--	--	--	--	76.14
	Change	0.00	--	-0.94	-1.89	-0.15	--	--	--	--	--	-0.38
Dumka	2008-09	4.30	--	34.66	148.37	--	--	--	--	--	--	124.84
	2015-16	4.30	--	34.84	148.09	--	--	--	--	--	--	124.62
	Change	0.00	--	0.18	-0.28	--	--	--	--	--	--	-0.22
Garhwa	2008-09	25.52	--	85.45	75.87	--	--	--	--	--	--	430.82
	2015-16	25.52	--	85.43	75.74	--	--	--	--	--	--	414.70
	Change	0.00	--	-0.02	-0.13	--	--	--	--	--	--	-16.13
Giridih	2008-09	25.55	--	8.21	253.47	--	--	--	--	--	--	451.49
	2015-16	25.55	--	8.21	249.01	--	--	--	--	--	--	446.92
	Change	0.00	--	0.00	-4.47	--	--	--	--	--	--	-4.56
Godda	2008-09	0.21	--	28.57	128.83	--	--	--	--	--	--	55.41
	2015-16	0.21	--	28.45	128.71	--	--	--	--	--	--	55.41
	Change	0.00	--	-0.12	-0.13	--	--	--	--	--	--	0.00
Gumla	2008-09	8.53	--	189.65	39.93	--	--	--	--	--	--	180.81
	2015-16	8.46	--	189.50	38.34	--	--	--	--	--	--	180.70
	Change	-0.07	--	-0.15	-1.59	--	--	--	--	--	--	-0.11
Hazaribag	2008-09	42.56	0.90	58.30	240.39	--	--	--	--	--	--	432.26
	2015-16	42.56	0.90	57.94	239.63	--	--	--	--	--	--	431.97
	Change	0.00	0.00	-0.36	-0.76	--	--	--	--	--	--	-0.29
Jamtara	2008-09	0.63	--	8.26	97.12	--	--	--	--	--	--	50.78
	2015-16	0.63	--	7.94	95.86	--	--	--	--	--	--	50.47
	Change	0.00	--	-0.33	-1.26	--	--	--	--	--	--	-0.30
Koderma	2008-09	11.25	--	37.93	142.69	--	--	--	--	--	--	143.62
	2015-16	11.07	--	37.93	141.00	--	--	--	--	--	--	142.48
	Change	-0.18	--	0.00	-1.69	--	--	--	--	--	--	-1.14
Latehar	2008-09	70.52	--	177.18	111.68	--	--	--	--	--	--	460.64
	2015-16	70.52	--	177.12	111.30	--	--	--	--	--	--	460.23
	Change	0.00	--	-0.06	-0.38	--	--	--	--	--	--	-0.40
Lohardaga	2008-09	5.78	--	5.38	31.92	--	--	--	--	--	--	41.10
	2015-16	5.41	--	5.38	31.62	--	--	--	--	--	--	41.10
	Change	-0.37	--	0.00	-0.30	--	--	--	--	--	--	0.00

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
69.07	--	--	--	--	--	--	--	26.74	15.73	3.24	--	603.47	2861
69.07	--	--	--	--	--	--	--	26.74	15.73	3.24	--	602.24	
0.00	--	--	--	--	--	--	--	0.00	0.00	0.00	--	-1.23	
151.48	--	--	--	--	--	--	--	11.04	--	3.19	--	1128.17	3706
151.25	--	--	--	--	--	--	--	18.75	--	3.19	--	1132.00	
-0.24	--	--	--	--	--	--	--	7.70	--	0.00	--	3.83	
71.69	--	--	--	--	--	--	--	2.51	--	9.69	--	544.62	2476
71.69	--	--	--	--	--	--	--	2.51	--	9.69	--	543.37	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-1.25	
24.26	--	--	--	--	--	--	--	75.08	0.21	4.44	--	411.33	2996
24.20	--	--	--	--	--	--	--	80.13	1.41	4.44	--	414.17	
-0.06	--	--	--	--	--	--	--	5.05	1.20	0.00	--	2.83	
12.15	--	--	--	--	--	--	--	13.66	--	11.76	--	349.73	4412
12.15	--	--	--	--	--	--	--	13.66	--	11.76	--	349.41	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.32	
10.50	--	--	0.02	--	--	--	--	1.03	--	22.58	--	651.80	4044
26.63	--	--	0.02	--	--	--	--	1.03	--	22.58	--	651.65	
16.13	--	--	0.00	--	--	--	--	0.00	--	0.00	--	-0.15	
127.71	--	--	--	--	--	--	--	3.23	0.39	6.64	--	876.69	4029
128.17	--	--	--	--	--	--	--	3.94	0.39	6.64	--	868.84	
0.47	--	--	--	--	--	--	--	0.71	0.00	0.00	--	-7.85	
5.28	--	--	--	--	--	--	--	4.02	--	14.27	--	236.59	2108
5.28	--	--	--	--	--	--	--	4.83	--	14.27	--	237.16	
0.00	--	--	--	--	--	--	--	0.81	--	0.00	--	0.56	
30.67	--	--	--	--	--	--	--	3.75	--	115.27	--	568.61	5321
30.61	--	--	--	--	--	--	--	9.28	--	111.67	--	568.56	
-0.06	--	0.00	--	--	--	--	--	5.53	--	-3.60	--	-0.05	
91.00	--	0.15	--	--	--	--	--	30.45	0.46	14.86	--	911.34	4913
91.05	--	0.15	--	--	--	--	--	32.30	0.52	14.80	--	911.84	
0.05	--	0.00	--	--	--	--	--	1.85	0.06	-0.05	--	0.49	
8.79	--	0.08	--	--	--	--	--	0.14	--	8.58	--	174.38	1800
8.79	--	1.06	--	--	--	--	--	0.26	--	8.56	--	173.58	
0.00	--	0.98	--	--	--	--	--	0.12	--	-0.02	--	-0.81	
10.12	--	1.32	--	--	--	--	--	11.03	0.36	2.09	--	360.42	2545
10.12	--	1.32	--	--	--	--	--	11.35	1.73	2.09	--	359.09	
0.00	--	0.00	--	--	--	--	--	0.32	1.37	0.00	--	-1.33	
25.93	--	--	--	--	--	--	--	1.83	--	2.01	--	849.77	4250
26.13	--	--	--	--	--	--	--	1.83	--	2.01	--	849.13	
0.20	--	--	--	--	--	--	--	0.00	--	0.00	--	-0.64	
5.24	--	--	--	--	--	--	--	3.79	--	3.18	--	96.39	1491
5.10	--	--	--	--	--	--	--	4.22	--	3.18	--	96.02	
-0.14	--	--	--	--	--	--	--	0.44	--	0.00	--	-0.37	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Jharkhand contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Pakur	2008-09	0.30	--	56.95	79.93	0.04	--	--	--	--	--	30.96
	2015-16	0.30	--	56.82	79.93	0.04	--	--	--	--	--	30.96
	Change	0.00	--	-0.12	0.00	0.00	--	--	--	--	--	0.00
Palamu	2008-09	2.12	--	61.86	129.14	--	0.05	--	--	--	--	408.43
	2015-16	2.06	--	61.16	128.46	--	0.05	--	--	--	--	407.98
	Change	-0.07	--	-0.70	-0.68	--	0.00	--	--	--	--	-0.45
Pashchim Singhbhum	2008-09	--	--	207.82	62.88	--	--	--	--	--	--	168.97
	2015-16	--	--	207.82	62.88	--	--	--	--	--	--	168.97
	Change	--	--	0.00	0.00	--	--	--	--	--	--	0.00
Purba Singhbhum	2008-09	--	--	91.99	73.33	--	--	--	--	--	--	157.92
	2015-16	--	--	91.24	72.42	--	--	--	--	--	--	157.92
	Change	--	--	-0.76	-0.91	--	--	--	--	--	--	0.00
Ranchi	2008-09	1.27	--	191.12	122.96	--	--	--	--	--	--	302.80
	2015-16	1.27	--	190.07	119.64	--	--	--	--	--	--	302.80
	Change	0.00	--	-1.06	-3.32	--	--	--	--	--	--	0.00
Sahibganj	2008-09	--	--	35.50	25.27	0.07	0.08	--	--	--	--	40.71
	2015-16	--	--	35.08	24.86	0.07	0.08	--	--	--	--	40.66
	Change	--	--	-0.41	-0.41	0.00	0.00	--	--	--	--	-0.06
Saraikela Kharsawan	2008-09	0.10	--	45.00	102.40	--	0.02	--	--	--	--	91.65
	2015-16	0.10	--	44.81	102.36	--	0.02	--	--	--	--	91.34
	Change	0.00	--	-0.19	-0.04	--	0.00	--	--	--	--	-0.30
Simdega	2008-09	0.29	--	330.08	47.99	--	--	--	--	--	--	356.20
	2015-16	0.29	--	329.02	47.99	--	--	--	--	--	--	336.47
	Change	0.00	--	-1.06	0.00	--	--	--	--	--	--	-19.74
Grand Total	2008-09	270.70	0.90	2102.97	2420.50	0.26	0.15	--	--	--	--	5121.33
	2015-16	270.02	0.90	2096.95	2399.93	0.11	0.15	--	--	--	--	5073.39
	Change	-0.68	0.00	-6.02	-20.57	-0.15	0.00	--	--	--	--	-47.94

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

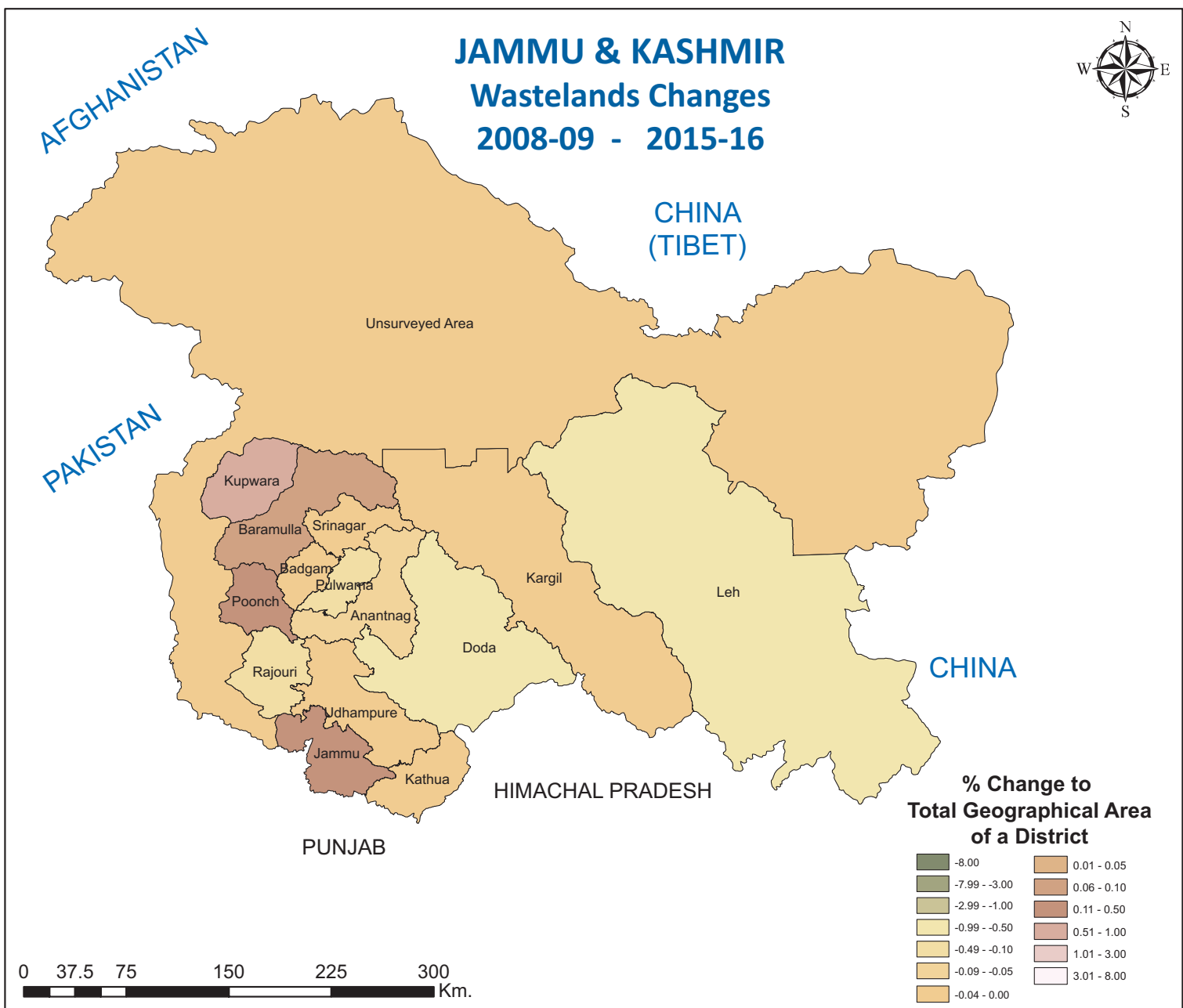
- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
3.31	--	--	--	--	--	--	--	14.56	0.01	5.52	--	191.58	1805
3.31	--	--	--	--	--	--	--	16.95	0.01	5.52	--	193.85	
0.00	--	--	--	--	--	--	--	2.39	0.00	0.00	--	2.27	
64.11	--	--	--	--	--	--	--	0.24	--	43.80	--	709.75	4455
64.44	--	--	--	--	--	--	--	1.97	--	43.59	--	709.71	
0.33	--	--	--	--	--	--	--	1.73	--	-0.21	--	-0.04	
134.41	--	--	--	--	--	--	--	13.83	--	11.20	--	599.12	7267
134.41	--	--	--	--	--	--	--	13.83	--	11.20	--	599.12	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	0.00	
57.44	--	0.06	--	--	--	--	--	2.81	2.34	6.16	--	392.05	3533
57.44	--	0.06	--	--	--	--	--	3.40	2.73	6.14	--	391.34	
0.00	--	0.00	--	--	--	--	--	0.59	0.39	-0.03	--	-0.71	
112.46	--	--	--	--	--	--	--	14.66	--	64.63	--	809.92	7698
112.46	--	--	--	--	--	--	--	16.73	--	63.26	--	806.23	
0.00	--	--	--	--	--	--	--	2.06	--	-1.37	--	-3.69	
14.56	--	--	--	--	--	--	--	14.13	--	2.49	--	132.80	1600
14.56	--	--	--	--	--	--	--	14.32	--	2.49	--	132.11	
0.00	--	--	--	--	--	--	--	0.19	--	0.00	--	-0.68	
14.79	--	3.70	--	--	--	--	--	1.95	0.52	5.27	--	265.40	2640
14.79	--	3.70	--	--	--	--	--	2.61	0.52	5.40	--	265.67	
0.00	--	0.00	--	--	--	--	--	0.66	0.00	0.14	--	0.27	
139.96	--	--	--	--	--	--	--	2.52	--	33.37	--	910.41	3756
145.86	--	--	--	--	--	--	--	36.00	--	16.39	--	912.01	
5.90	--	--	--	--	--	--	--	33.48	--	-16.98	--	1.60	
1184.93	--	5.31	0.02	--	--	--	--	253.03	20.02	394.24	--	11774.36	79706
1207.51	--	6.29	0.02	--	--	--	--	316.66	23.04	372.11	--	11767.08	
22.57	--	0.98	0.00	--	--	--	--	63.64	3.02	-22.13	--	-7.28	

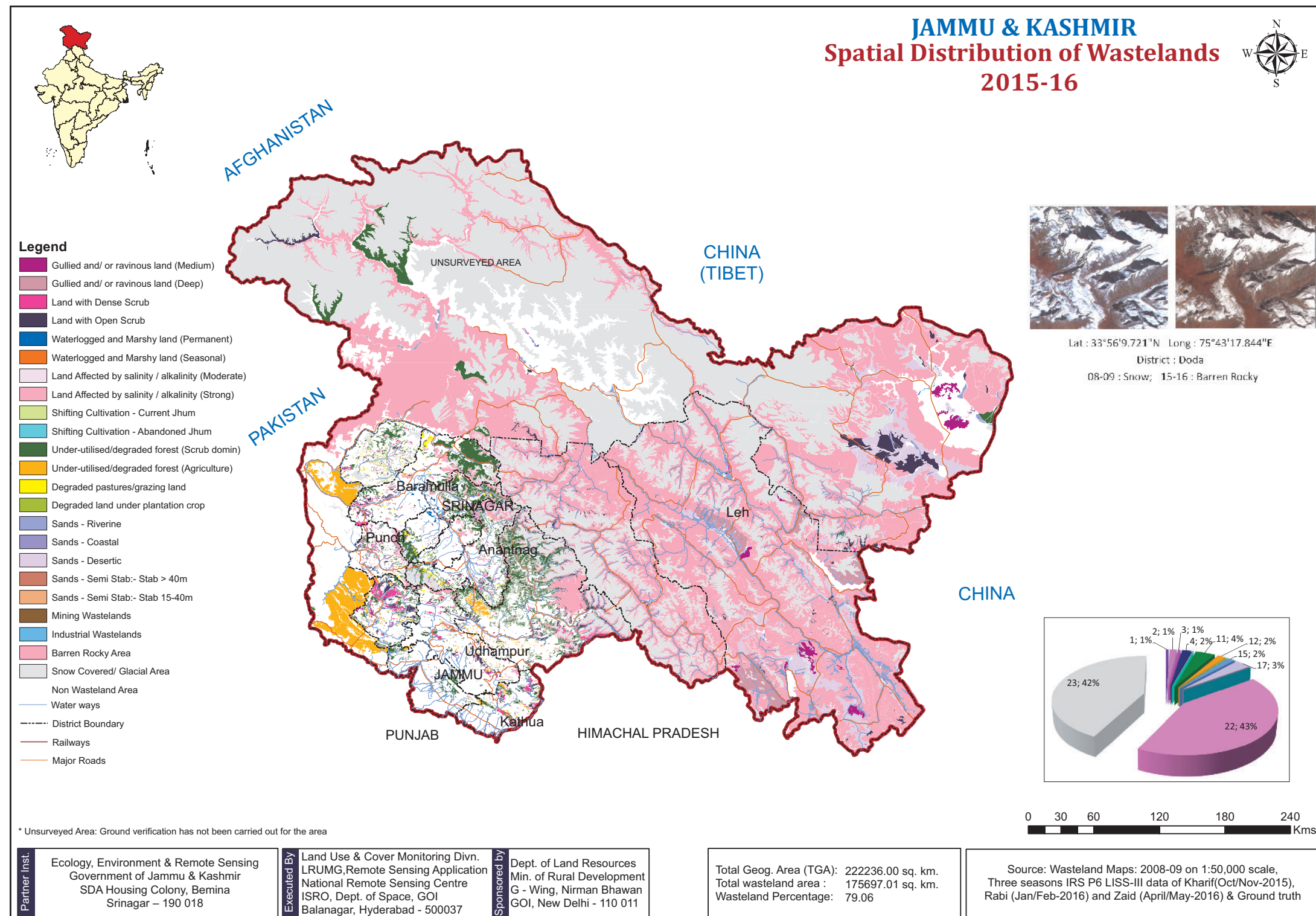
TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Decrease in wastelands area is observed by 383.24 sq. km.
- Maximum decrease in wastelands area is noticed under **snow covered / Glacial Area** by 3085.55 sq. km.
- Maximum increase is observed in the area under **barren rocky** by 2048.05 sq. km., followed by **sands - desertic** by 576.08 sq. km.
- An area of 326.33 sq. km. of the **snow covered/ Glacial Area** was converted to water bodies.
- Leh district witnessed maximum decrease in wastelands area by 326.84 sq. km., which was due to decrease in **snow cover**.



JAMMU & KASHMIR

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Category	WL during 2008-09 remaining as WL in 2015-16																		WL 2008-09 becoming non_ WL in 2015-16				2008-09	
	1	2	3	4	5	6	7	8	11	12	13	14	15	17	20	21	22	23	26	28	29	32	Category Total	Grand Total
1	880.85																				0.07		880.91	176080.25
2		2481.05																0.27					2481.32	
3			896.91	3.71																			900.62	
4			0.42	3264.61			0.32	7.66				1.20	21.09				4.38	6.72	0.59	0.04		0.71	3307.74	
5					100.47																		100.47	
6						0.11																	0.11	
7							98.45						0.31				0.77						99.54	
8								69.03															69.03	
11									6907.90	3.08								5.60	110.30				7026.88	
12										2925.19													2925.19	
13									0.44		189.27								0.18		0.03		189.92	
14												39.59											39.59	
15				1.87									2662.21	34.63				0.06					2698.77	
17				0.79			0.34	1.95					0.02	5056.08				0.56					5059.74	
20															4.47								4.47	
21																3.75							3.75	
22			0.16	5.51									8.74				68537.28	4084.07				0.17	72635.93	
23	17.30		15.00	37.42			3.06	0.53	114.86	1.26	1.46		23.19	544.13			6135.91	70346.16	4.33	0.61	84.72	326.33	77656.27	
999				0.25					0.01	6.88			3.82	0.98			0.04	22.39						
Category Total (2015-16)	898.15	2481.05	912.49	3314.16	100.47	0.11	102.17	79.17	7023.20	2936.41	190.73	40.79	2719.38	5635.82	4.47	3.75	74683.98	74570.72	4.92	0.68	84.79	327.22		
Grand Total (2015-16)	175697.01																							

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	0.07			
2				
3				
4	1.34		0.25	2
5				
6				
7				
8				
11			0.01	1
12			6.88	2
13	0.03			
14				
15			3.82	25
17			0.98	1
20				
21				
22	0.17		0.04	1
23	415.99		22.39	4
Total	417.60		34.37	

Wastelands becoming Non-wastelands (-) 417.6
 Non-wastelands becoming Wastelands (+) 34.37
 NET Change (2015 - 16) - (2008 - 09) (-) 383.24

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Jammu & Kashmir

Wastelands Area Changes – 2008-09 and 2015-16

Area in sq.km

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Anantnag	2008-09	3.38	--	45.69	75.20	3.24	--	--	--	--	--	472.09
	2015-16	3.38	--	45.69	75.20	3.24	--	--	--	--	--	503.95
	Change	0.00	--	0.00	0.00	0.00	--	--	--	--	--	31.86
Badgam	2008-09	1.46	6.81	6.54	19.95	21.66	0.02	--	--	--	--	255.32
	2015-16	1.46	6.81	7.49	23.10	21.66	0.02	--	--	--	--	240.60
	Change	0.00	0.00	0.95	3.15	0.00	0.00	--	--	--	--	-14.72
Baramula	2008-09	--	--	91.28	93.18	15.85	--	--	--	--	--	922.17
	2015-16	--	--	87.63	97.53	15.85	--	--	--	--	--	899.65
	Change	--	--	-3.65	4.36	0.00	--	--	--	--	--	-22.52
Doda	2008-09	--	--	107.38	488.35	--	--	--	--	--	--	1884.20
	2015-16	--	--	115.05	491.52	--	--	--	--	--	--	1938.35
	Change	--	--	7.67	3.17	--	--	--	--	--	--	54.15
Jammu	2008-09	1.14	3.73	13.18	29.39	--	--	--	--	--	--	181.93
	2015-16	1.07	3.73	13.36	27.93	--	--	--	--	--	--	181.93
	Change	-0.07	0.00	0.17	-1.46	--	--	--	--	--	--	0.00
Kargil	2008-09	--	--	26.22	179.44	--	--	--	--	--	--	0.09
	2015-16	--	--	27.45	202.35	--	--	--	--	--	--	0.09
	Change	--	--	1.23	22.91	--	--	--	--	--	--	0.00
Kathua	2008-09	13.24	26.71	93.41	104.59	--	--	--	--	--	--	196.50
	2015-16	13.24	26.71	93.47	100.28	--	--	--	--	--	--	194.21
	Change	0.00	0.00	0.05	-4.31	--	--	--	--	--	--	-2.29
Kupwara	2008-09	--	--	47.90	38.87	--	0.09	--	--	--	--	266.36
	2015-16	--	--	47.90	37.67	--	0.09	--	--	--	--	220.07
	Change	--	--	0.00	-1.20	--	0.00	--	--	--	--	-46.29
Leh	2008-09	428.77	2392.71	65.98	378.73	--	--	21.60	69.03	--	--	1.72
	2015-16	446.07	2392.44	71.21	360.48	--	--	24.24	79.17	--	--	1.72
	Change	17.30	-0.27	5.23	-18.24	--	--	2.63	10.14	--	--	0.00
Punch	2008-09	--	--	49.97	102.32	--	--	--	--	--	--	80.42
	2015-16	--	--	49.97	101.73	--	--	--	--	--	--	68.77
	Change	--	--	0.00	-0.59	--	--	--	--	--	--	-11.66
Pulwama	2008-09	8.24	0.48	1.52	3.89	0.58	--	--	--	--	--	152.76
	2015-16	8.24	0.48	1.52	4.10	0.58	--	--	--	--	--	162.00
	Change	0.00	0.00	0.00	0.21	0.00	--	--	--	--	--	9.24
Rajouri	2008-09	86.67	50.88	185.06	167.10	--	--	--	--	--	--	293.83
	2015-16	86.67	50.88	185.26	167.00	--	--	--	--	--	--	292.87
	Change	0.00	0.00	0.20	-0.10	0.00	--	--	--	--	--	-0.97
Srinagar	2008-09	--	--	18.35	30.13	33.15	--	--	--	--	--	674.65
	2015-16	--	--	18.35	30.49	33.15	--	--	--	--	--	673.78
	Change	--	--	0.00	0.36	0.00	--	--	--	--	--	-0.87
Udhampur	2008-09	0.04	--	104.36	155.22	--	--	--	--	--	--	166.87
	2015-16	0.04	--	104.36	153.39	--	--	--	--	--	--	167.25
	Change	0.00	--	0.00	-1.84	--	--	--	--	--	--	0.38

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
5.25	52.56	0.45	0.47	--	--	--	--	0.35	--	582.74	487.07	1728.51	3984
5.25	53.05	0.45	0.47	--	--	--	--	0.35	--	548.08	486.36	1725.48	
0.00	0.49	0.00	0.00	--	--	--	--	0.00	--	-34.66	-0.72	-3.03	
--	24.13	3.74	--	--	--	--	--	2.56	3.74	20.26	49.07	415.26	1371
--	23.70	3.74	--	--	--	--	--	2.56	3.74	11.29	68.92	415.09	
--	-0.44	0.00	--	--	--	--	--	0.00	0.00	-8.98	19.85	-0.18	
2.30	56.60	0.01	--	--	--	--	--	--	--	434.21	163.89	1779.49	4588
7.52	57.50	0.01	--	--	--	--	--	--	--	368.59	249.47	1783.77	
5.22	0.90	0.00	--	--	--	--	--	--	--	-65.62	85.59	4.28	
194.10	4.08	--	--	--	--	--	--	--	--	2091.54	1974.91	6744.56	11691
194.29	4.08	--	--	--	--	--	--	--	--	2047.73	1880.48	6671.49	
0.18	0.00	--	--	--	--	--	--	--	--	-43.82	-94.43	-73.07	
25.83	--	--	22.41	--	--	--	--	0.14	--	6.09	0.17	284.01	3097
25.83	--	--	27.43	--	0.98	--	--	0.14	--	6.03	--	288.44	
0.00	--	--	5.02	--	0.98	--	--	0.00	--	-0.05	-0.17	4.43	
--	--	--	4.11	--	63.87	--	--	--	--	10613.92	3084.59	13972.23	14036
--	--	--	4.05	--	63.87	--	--	--	--	8508.19	5164.13	13970.12	
--	--	--	-0.06	--	0.00	--	--	--	--	-2105.73	2079.54	-2.11	
47.53	--	--	10.91	--	--	--	--	--	--	29.19	5.01	527.09	2651
48.56	--	--	13.57	--	--	--	--	--	--	31.68	4.53	526.25	
1.03	--	--	2.66	--	--	--	--	--	--	2.50	-0.47	-0.84	
1.71	23.78	30.36	--	--	--	--	--	--	--	29.44	96.95	535.45	2379
1.71	23.74	31.57	--	--	--	--	--	--	--	26.15	167.54	556.42	
0.00	-0.03	1.20	--	--	--	--	--	--	--	-3.29	70.59	20.98	
--	--	2.31	2155.93	--	2123.81	--	--	--	--	23009.65	13914.32	44564.56	45110
--	--	2.31	2168.80	--	2698.91	--	--	--	--	27168.02	8824.36	44237.72	
--	--	0.00	12.87	--	575.10	--	--	--	--	4158.37	-5089.97	-326.84	
2.91	5.28	1.43	0.25	--	--	--	--	--	--	92.86	60.54	395.97	1674
4.58	5.29	1.43	0.25	--	--	--	--	--	--	118.55	47.16	397.72	
1.66	0.01	0.00	0.00	--	--	--	--	--	--	25.69	-13.38	1.75	
1.03	4.15	0.71	--	--	--	--	--	0.71	0.01	71.64	28.67	274.37	1398
1.03	4.21	0.71	--	--	--	--	--	0.71	0.01	71.43	17.19	272.19	
0.00	0.06	0.00	--	--	--	--	--	0.00	0.00	-0.21	-11.48	-2.18	
87.51	0.33	0.58	3.63	--	--	--	--	--	--	12.62	32.30	920.51	2630
89.37	0.33	0.58	3.75	--	--	--	--	--	--	23.23	15.36	915.30	
1.86	0.00	0.00	0.12	--	--	--	--	--	--	10.60	-16.94	-5.21	
2.34	13.30	--	3.99	--	--	--	--	0.70	--	305.69	117.27	1199.57	2228
2.34	13.12	--	3.99	--	--	--	--	0.70	--	298.14	125.03	1199.09	
0.00	-0.18	--	0.00	--	--	--	--	0.00	--	-7.56	7.76	-0.48	
54.09	5.71	--	4.34	--	--	--	--	--	--	85.65	132.36	708.64	4550
55.34	5.71	--	4.34	--	--	--	--	--	--	206.45	11.03	707.90	
1.26	0.00	--	0.00	--	--	--	--	--	--	120.80	-121.33	-0.73	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Jammu & Kashmir contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Unsurveyed Area*	2008-09	337.97	0.00	43.79	1441.38	25.99	--	77.93	--	--	--	1477.98
	2015-16	337.97	0.00	43.79	1441.38	25.99	--	77.93	--	--	--	1477.98
	Change	0.00	0.00	0.00	0.00	0.00	--	0.00	--	--	--	0.00
Grand Total	2008-09	880.91	2481.32	900.62	3307.74	100.47	0.11	99.54	69.03	--	--	7026.88
	2015-16	898.15	2481.05	912.49	3314.16	100.47	0.11	102.17	79.17	--	--	7023.20
	Change	17.23	-0.27	11.87	6.43	0.00	0.00	2.63	10.14	--	--	-3.68

Note: “--” Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

*For Unsurveyed area Ground Truth not carried out

Jammu & Kashmir contd...

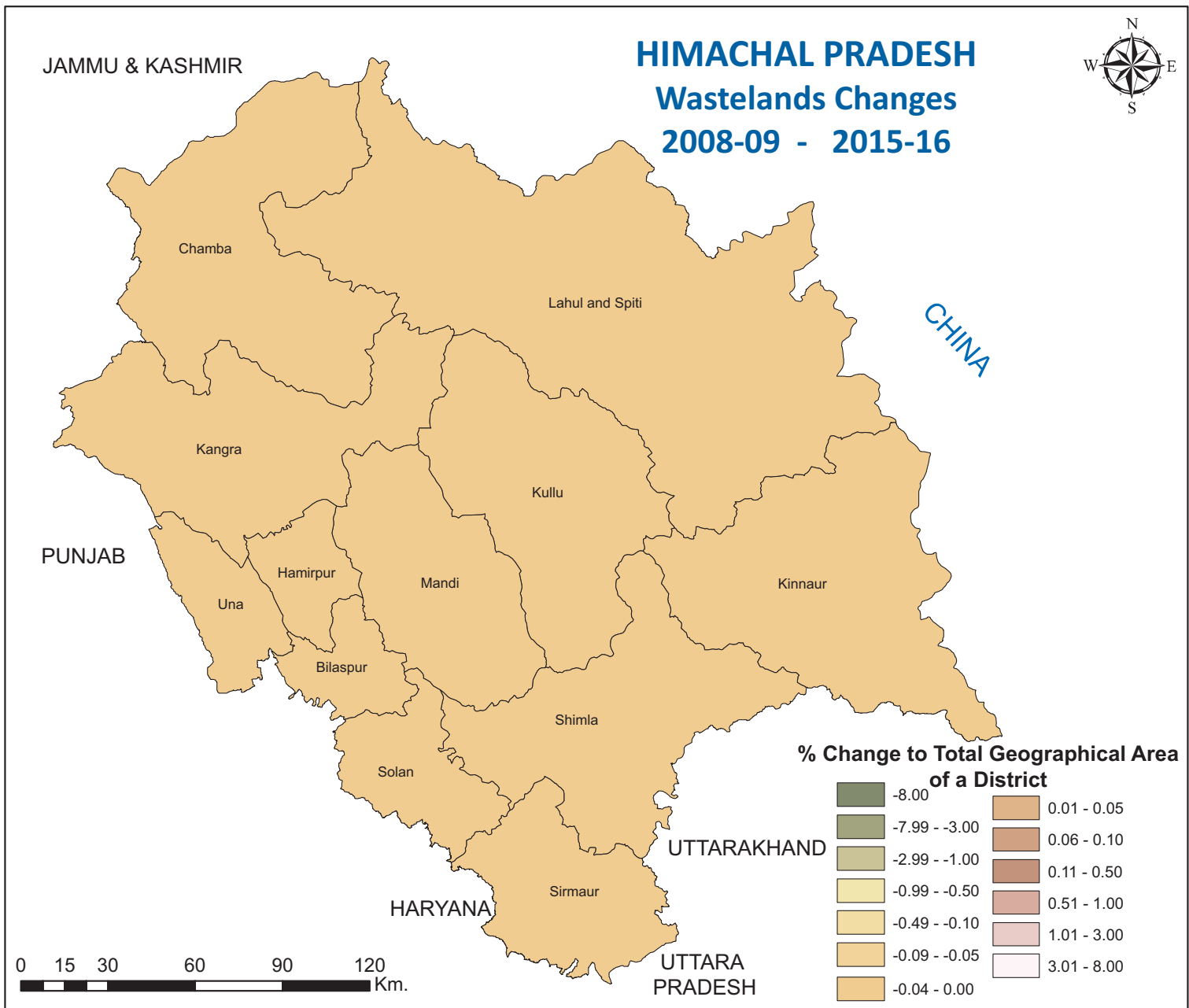
Wastelands Area Changes – 2008-09 and 2015-16

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
2500.60	--	--	492.74	--	2872.05	--	--	--	--	35250.42	57509.17	102030	120849
2500.60	--	--	492.74	--	2872.05	--	--	--	--	35250.42	57509.17	102030	
0.00	--	--	0.00	--	0.00	--	--	--	--	0.00	0.00	0.00	
2925.19	189.92	39.59	2698.77	--	5059.74	--	--	4.47	3.75	72635.93	77656.27	176080	222236
2936.41	190.73	40.79	2719.38	--	5635.82	--	--	4.47	3.75	74683.98	74570.72	175697	
11.22	0.81	1.20	20.60	--	576.08	--	--	0.00	0.00	2048.05	-3085.55	-383.24	

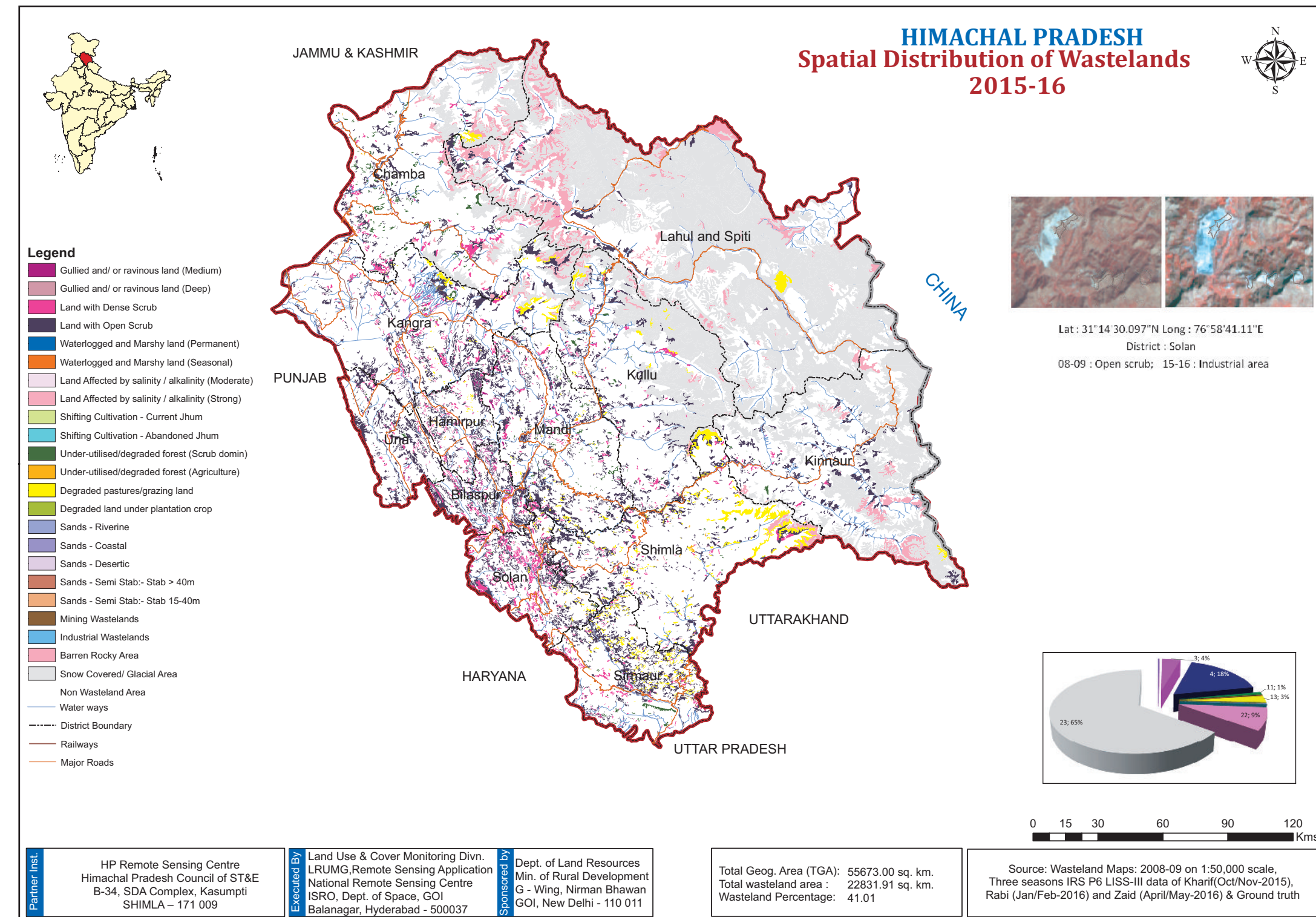
TGA - Total Geographical Area

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Decrease in wastelands area by 0.29 sq. km.
- Maximum decrease of wastelands area observed in **land with open scrub** (0.28 sq. km.), followed by barren rocky (0.04 sq. km.).
- Conversion from **open scrub** to industry is also observed in the state.
- Maximum decrease in wastelands area is observed in Solan district.



HIMACHAL PRADESH

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16														WL 2008-09 becoming non WL in 2015-16	2008-09	
	1	2	3	4	6	9	11	12	13	15	20	21	22	23	25	Category Total	Grand Total
1	64.33															64.33	22832.19
2		2.59														2.59	
3			929.53													929.53	
4				4035.82							0.04				0.24	4036.10	
6					0.29											0.29	
9						0.39										0.39	
11							210.09									210.09	
12								18.84								18.84	
13									632.66							632.66	
15										67.69						67.69	
20											11.38					11.38	
21												3.79				3.79	
22													2022.81		0.04	2022.85	
23														14831.65		14831.65	
999																	
Category Total (2015-16)	64.33	2.59	929.53	4035.82	0.29	0.39	210.09	18.84	632.66	67.69	11.42	3.79	2022.81	14831.65			
Grand Total (2015-16)	22831.91																

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1				
2				
3				
4	0.25	5		
6				
9				
11				
12				
13				
15				
20				
21				
22	0.04	1		
23				
Total	0.29	6	0	

Wastelands becoming Non-wastelands (-) 0.29 Green denotes Change from wasteland to non-wasteland
 Non-wastelands becoming Wastelands (+) 0 Red denotes change from non-wasteland to wastelands
 NET Change (2015 - 16) - (2008 - 09) (-) 0.29 Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Himachal Pradesh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Bilaspur	2008-09	22.04	--	82.68	260.71	--	--	--	--	0.39	--	2.89
	2015-16	22.04	--	82.68	260.71	--	--	--	--	0.39	--	2.89
	Change	--	--	--	--	--	--	--	--	--	--	--
Chamba	2008-09	--	--	119.76	262.53	--	--	--	--	--	--	87.65
	2015-16	--	--	119.76	262.53	--	--	--	--	--	--	87.65
	Change	--	--	--	--	--	--	--	--	--	--	--
Hamirpur	2008-09	8.54	1.12	38.11	157.18	--	--	--	--	--	--	0.07
	2015-16	8.54	1.12	38.11	157.18	--	--	--	--	--	--	0.07
	Change	--	--	--	--	--	--	--	--	--	--	--
Kangra	2008-09	--	1.47	141.05	547.93	--	0.09	--	--	--	--	13.13
	2015-16	--	1.47	141.05	547.93	--	0.09	--	--	--	--	13.13
	Change	--	--	--	--	--	--	--	--	--	--	--
Kinnaur	2008-09	--	--	18.53	269.73	--	--	--	--	--	--	6.57
	2015-16	--	--	18.53	269.73	--	--	--	--	--	--	6.57
	Change	--	--	--	--	--	--	--	--	--	--	--
Kullu	2008-09	--	--	63.79	327.19	--	--	--	--	--	--	15.60
	2015-16	--	--	63.79	327.19	--	--	--	--	--	--	15.60
	Change	--	--	--	--	--	--	--	--	--	--	--
Lahul and Spiti	2008-09	--	--	5.39	223.30	--	--	--	--	--	--	5.48
	2015-16	--	--	5.39	223.30	--	--	--	--	--	--	5.48
	Change	--	--	--	--	--	--	--	--	--	--	--
Mandi	2008-09	15.94	--	76.84	532.12	--	--	--	--	--	--	36.91
	2015-16	15.94	--	76.84	532.12	--	--	--	--	--	--	36.91
	Change	--	--	--	--	--	--	--	--	--	--	--
Shimla	2008-09	--	--	69.32	457.82	--	--	--	--	--	--	9.55
	2015-16	--	--	69.32	457.82	--	--	--	--	--	--	9.55
	Change	--	--	--	--	--	--	--	--	--	--	--
Sirmaur	2008-09	1.46	--	83.65	407.33	--	--	--	--	--	--	24.45
	2015-16	1.46	--	83.65	407.30	--	--	--	--	--	--	24.45
	Change	--	--	--	-0.04	--	--	--	--	--	--	--
Solan	2008-09	12.23	--	201.23	331.43	--	--	--	--	--	--	3.46
	2015-16	12.23	--	201.23	331.19	--	--	--	--	--	--	3.46
	Change	--	--	--	-0.24	--	--	--	--	--	--	--
Una	2008-09	4.12	--	29.17	258.84	--	0.20	--	--	--	--	4.32
	2015-16	4.12	--	29.17	258.84	--	0.20	--	--	--	--	4.32
	Change	--	--	--	--	--	--	--	--	--	--	--
Grand Total	2008-09	64.33	2.59	929.53	4036.10	--	0.29	--	--	0.39	--	210.09
	2015-16	64.33	2.59	929.53	4035.82	--	0.29	--	--	0.39	--	210.09
	Change	--	--	--	-0.28	--	--	--	--	--	--	--

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

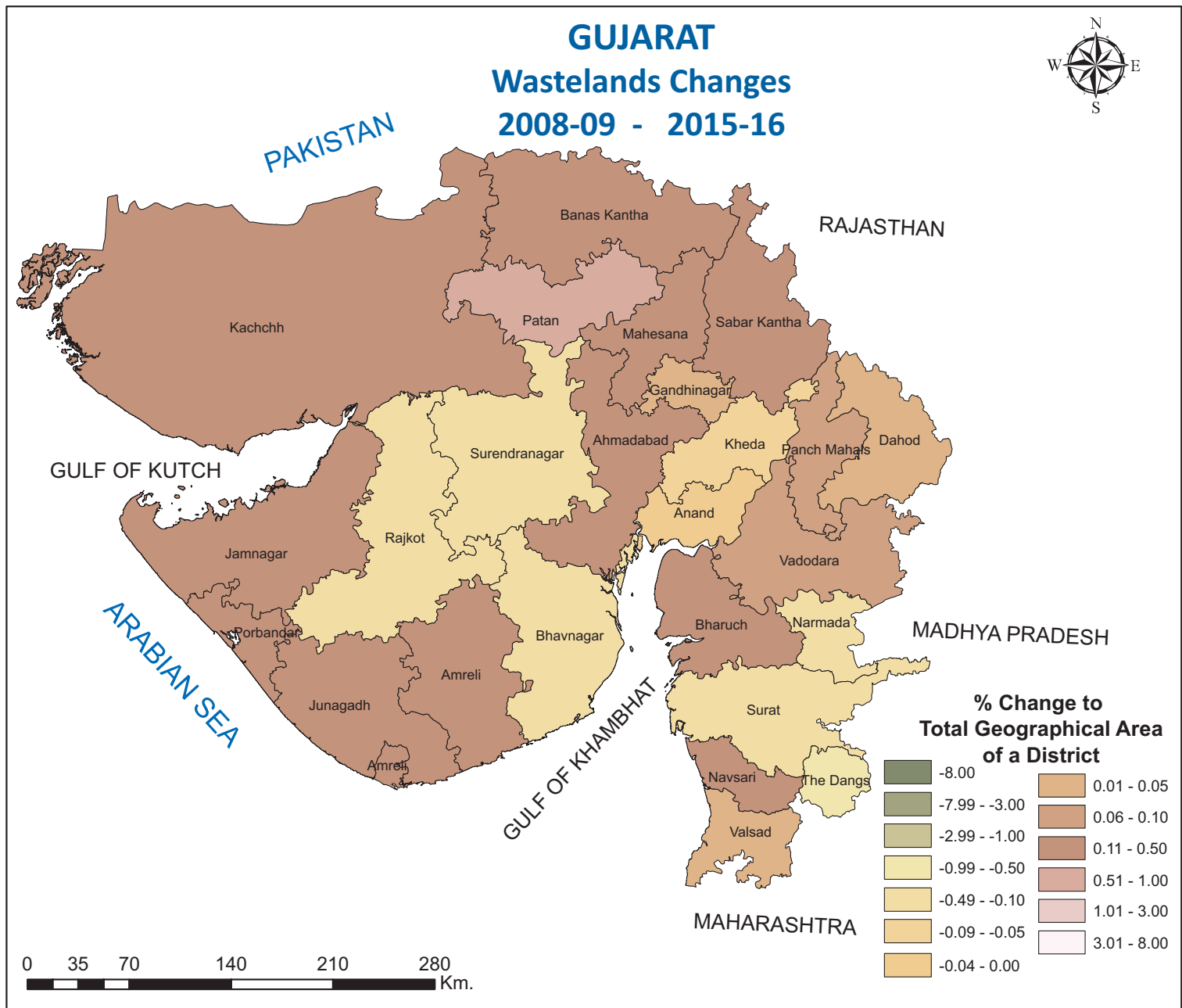
Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
0.20	0.75	--	--	--	--	--	--	0.62	0.12	0.03	--	370.43	1167
0.20	0.75	--	--	--	--	--	--	0.62	0.12	0.03	--	370.43	
--	--	--	--	--	--	--	--	--	--	--	--	--	
1.40	23.16	--	--	--	--	--	--	--	--	263.19	1049.16	1806.84	6528
1.40	23.16	--	--	--	--	--	--	--	--	263.19	1049.16	1806.84	
--	--	--	--	--	--	--	--	--	--	--	--	--	
2.24	5.22	--	1.03	--	--	--	--	--	--	--	--	213.51	1118
2.24	5.22	--	1.03	--	--	--	--	--	--	--	--	213.51	
--	--	--	--	--	--	--	--	--	--	--	--	--	
1.25	84.76	--	4.62	--	--	--	--	3.74	--	98.25	263.07	1159.38	5739
1.25	84.76	--	4.62	--	--	--	--	3.74	--	98.25	263.07	1159.38	
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	10.25	--	1.44	--	--	--	--	--	--	291.19	2752.07	3349.78	6401
--	10.25	--	1.44	--	--	--	--	--	--	291.19	2752.07	3349.78	
--	--	--	--	--	--	--	--	--	--	--	--	--	
0.32	42.11	--	--	--	--	--	--	0.07	--	66.31	1918.14	2433.53	5503
0.32	42.11	--	--	--	--	--	--	0.07	--	66.31	1918.14	2433.53	
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	45.17	--	50.64	--	--	--	--	--	--	1202.21	8783.13	10315.32	13835
--	45.17	--	50.64	--	--	--	--	--	--	1202.21	8783.13	10315.32	
--	--	--	--	--	--	--	--	--	--	--	--	--	
2.57	20.77	--	0.08	--	--	--	--	0.50	--	0.63	--	686.36	3950
2.57	20.77	--	0.08	--	--	--	--	0.50	--	0.63	--	686.36	
--	--	--	--	--	--	--	--	--	--	--	--	--	
6.43	294.68	--	--	--	--	--	--	--	--	95.45	66.08	999.33	5131
6.43	294.68	--	--	--	--	--	--	--	--	95.45	66.08	999.32	
--	--	--	--	--	--	--	--	--	--	--	--	--	
1.66	91.24	--	6.84	--	--	--	--	3.08	--	4.82	--	624.54	2825
1.66	91.24	--	6.84	--	--	--	--	3.11	--	4.82	--	624.54	
--	--	--	--	--	--	--	--	0.04	--	--	--	--	
2.74	14.53	--	0.82	--	--	--	--	2.68	1.73	0.77	--	571.62	1936
2.74	14.53	--	0.82	--	--	--	--	2.68	1.73	0.73	--	571.34	
--	--	--	--	--	--	--	--	--	--	-0.04	--	-0.29	
0.03	--	--	2.22	--	--	--	--	0.70	1.94	--	--	301.55	1540
0.03	--	--	2.22	--	--	--	--	0.70	1.94	--	--	301.55	
--	--	--	--	--	--	--	--	--	--	--	--	--	
18.84	632.66	--	67.69	--	--	--	--	11.38	3.79	2022.85	14831.65	22832.19	55673
18.84	632.66	--	67.69	--	--	--	--	11.42	3.79	2022.81	14831.65	22831.91	
--	--	--	--	--	--	--	--	0.04	--	-0.04	--	-0.29	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area



Salient Features

- Net Decrease in wastelands area by 70.16 sq. km. is observed.
- Maximum decrease observed under **land with dense scrub** by 220.19 sq. km.
- Katchchh district has witnessed maximum decrease by 87.67 sq. km. primarily from **land with open scrub** (128.73 sq. km.), **gullied and/or ravinous land** (4.78 sq. km.) and **Sands- coastal** (1.19 sq. km.).
- Decrease in wastelands area is observed in Rajkot district (46.77 sq. km.), which is contributed by **land with dense and open scrub** (48.46 sq. km.).
- 537.84 sq. km. of wastelands converted into cropland with contribution from **land with dense scrub** (241.09 sq. km.) and **land with open scrub** (265.89 sq. km.).
- 119.20 sq. km. of wastelands area converted to industrial area.
- Wastelands area increased in Banaskanta and Jamnagar districts in the categories of **land with open scrub** (59.27 sq. km.) and **land with open and dense scrub** (26.61 sq. km.) respectively.

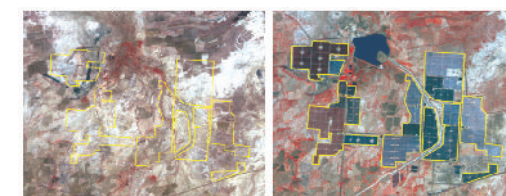
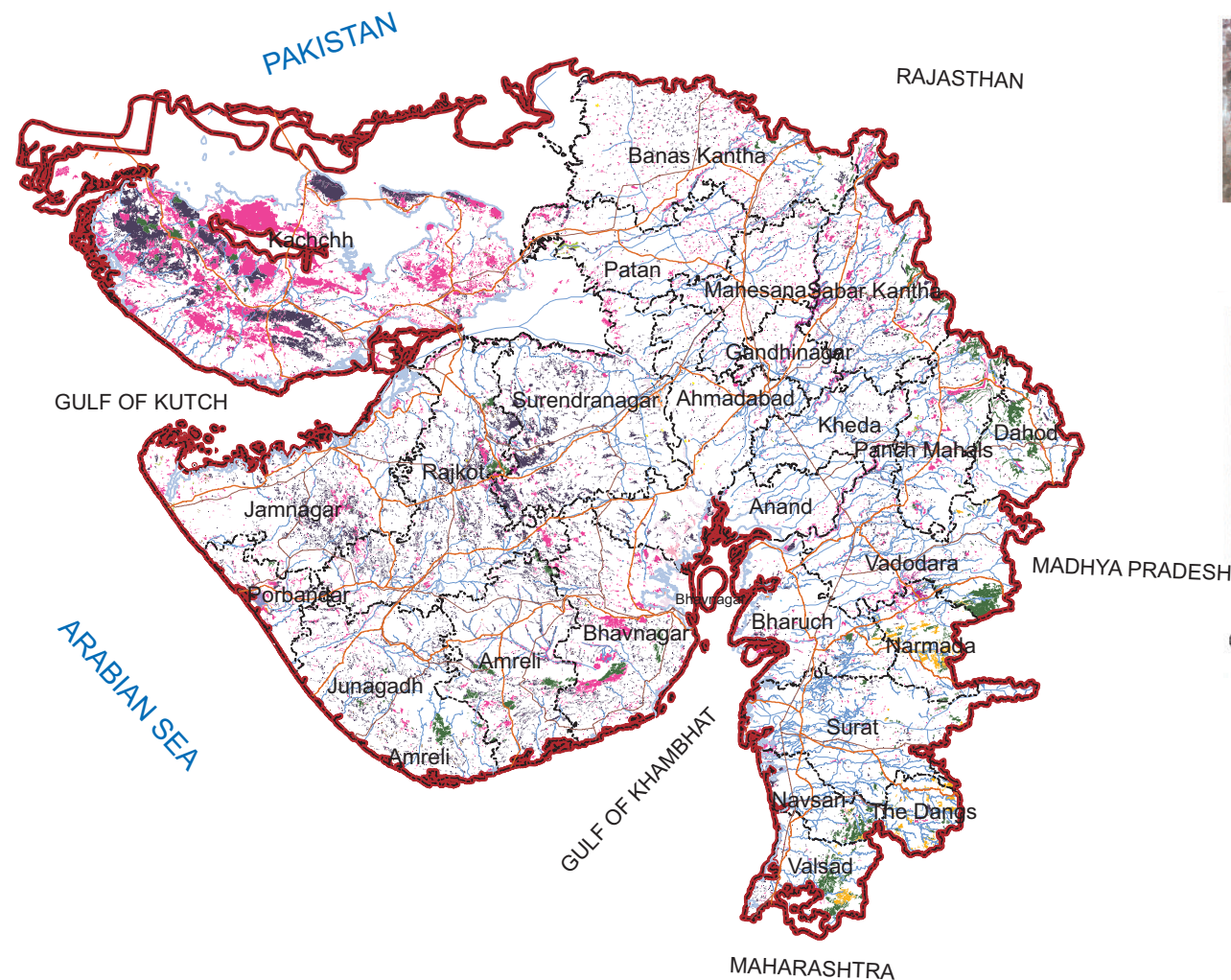
GUJARAT

Spatial Distribution of Wastelands 2015-16

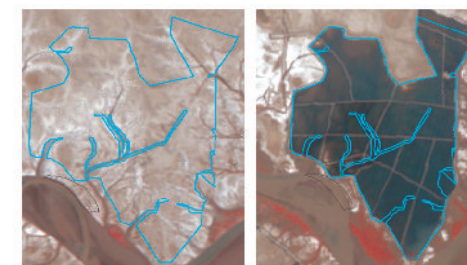


Legend

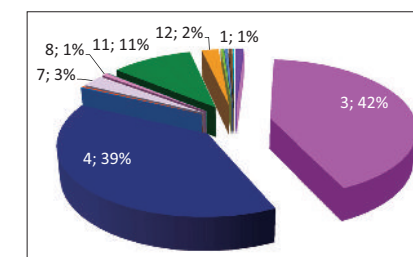
- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- District Boundary
- Railways
- Major Roads



Lat : 22°13'59.653"N Long : 69°18'56.821"E
Area : Gujarat, Charanka
08-09 :Open Scrub; 15-16 : Industry



Lat : 21°58'14.517"N Long : 72°11'14.594"E,
District: Bhavnagar
08-09 : Land affected by salinity/alkalinity (Medium);
15-16 : Industrial Area



0 30 60 120 180 240
Kms

Partner Inst.

Department of Remote Sensing
Birla Institute of Scientific Research
Statue Circle
Jaipur, Rajasthan, 302 001

Executed By

Land Use & Cover Monitoring Divn.
LRUMG, Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by

Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011

Total Geog. Area (TGA): 196024.00 sq. km.
Total wasteland area : 21740.39 sq. km.
Wasteland Percentage: 11.09

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

GUJARAT

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in Sq.km

WL Category	WL during 2008-09 remaining as WL in 2015-16																WL 2008-09 becoming non_WL in 2015-16												2008-09		
	1	3	3	4	5	6	7	8	11	12	13	14	15	16	20	21	22	24	25	26	27	28	30	32	Category Total	Grand Total					
1	213.69	9.45		5.84														1.54	0.08	10.13	1.86	0.41		0.12	243.13	21810.55					
2		8688.64																		0.76					0.76						
3		8688.64	430.14	198.89	3.01	2.66	10.12	0.67				6.60	0.24		5.96	2.33	0.31	42.11	66.41	241.09	75.74	6.15	0.41	36.93	9388.29						
4		188.76	21.97	7742.88		0.08	2.42								3.90			24.09	21.13	265.89	23.87	2.70	0.04	9.13	8284.91						
5					30.93																				30.93						
6		0.63		0.12		44.47	0.13													1.22		0.02			46.60						
7		0.51		5.03	0.30	1.00	552.91	7.21										0.72	28.55	18.47	8.85	0.08		12.83	636.47						
8								142.37																	142.37						
11									2284.15	5.54					0.17				1.31			0.29		0.04	2291.49						
12										465.05															465.05						
13											15.23									0.15					15.38						
14		0.62										53.23								0.12					53.97						
15				0.05									0.86												0.91						
16		0.60	0.90	1.17										91.25							0.19				93.20						
20															81.05			0.24	1.52			0.39			83.20						
21																18.50									18.50						
22																	15.40								15.40						
999	4.51	278.90	18.13	473.39	5.19	4.46	38.54	9.15	7.80	0.16	1.37			3.51	7.29	1.19			0.19												
Category Total (2015-16)	218.20	9168.10	471.14	8427.37	39.43	52.68	604.13	159.39	2291.95	470.74	16.60	59.83	1.10	94.76	98.37	22.02	15.71	68.71	119.20	537.84	110.51	10.05	0.46	59.06							
Grand Total (2015-16)	21740.39																														

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	14.15	86	4.51	8
2	0.76	1		
3	468.85	3153	278.90	1644
4	346.86	2498	473.39	2377
5			5.19	6
6	1.25	5	4.46	4
7	69.50	237	38.54	95
8			9.15	14
11	1.64	11	7.80	21
12			0.16	1
13	0.15	2	1.37	1
14	0.12	1		
15				
16	0.19	1	3.51	4
20	2.15	5	7.29	77
21			1.19	7
22				
Total	905.62	6000	835.46	4251

Wastelands becoming Non-wastelands (-) 905.62
 Non-wastelands becoming Wastelands (+) 835.46
 NET Change (2015 - 16)- (2008 - 09) (+) -70.16

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Gujarat

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Ahmadabad	2008-09	--	--	124.35	268.76	0.17	2.15	124.00	92.92	--	--	4.66
	2015-16	--	--	105.87	281.33	2.03	1.91	114.07	101.38	--	--	4.30
	Change	--	--	-18.48	12.57	1.86	-0.24	-9.93	8.45	--	--	-0.37
Amreli	2008-09	--	--	170.26	392.22	0.18	--	16.56	--	--	--	167.84
	2015-16	--	--	177.73	405.82	0.18	--	14.64	--	--	--	167.84
	Change	--	--	7.47	13.60	--	--	-1.91	--	--	--	--
Anand	2008-09	7.75	--	68.80	14.61	1.43	--	13.28	1.41	--	--	--
	2015-16	5.81	--	68.07	17.05	1.77	--	10.04	3.72	--	--	--
	Change	-1.94	--	-0.72	2.45	0.33	--	-3.23	2.31	--	--	--
Banas-Kantha	2008-09	--	--	319.06	317.65	--	1.76	17.24	--	--	--	60.43
	2015-16	--	--	300.15	376.92	--	0.24	19.67	--	--	--	61.51
	Change	--	--	-18.91	59.27	--	-1.52	2.43	--	--	--	1.08
Bharuch	2008-09	--	--	230.14	168.58	1.70	2.27	128.37	--	--	--	45.95
	2015-16	--	--	186.71	201.27	5.60	4.46	126.02	1.07	--	--	45.37
	Change	--	--	-43.43	32.69	3.90	2.19	-2.36	1.07	--	--	-0.58
Bhavnagar	2008-09	--	--	733.26	425.22	1.16	0.12	125.59	22.22	--	--	142.36
	2015-16	--	--	707.12	428.61	3.03	3.30	105.97	27.41	--	--	142.41
	Change	--	--	-26.14	3.39	1.87	3.18	-19.62	5.19	--	--	0.05
Dohad	2008-09	--	--	95.45	63.18	--	--	--	--	--	--	332.54
	2015-16	--	--	92.54	66.83	--	--	--	--	--	--	328.92
	Change	--	--	-2.90	3.65	--	--	--	--	--	--	-3.62
Gandhinagar	2008-09	8.31	--	27.93	12.69	--	--	--	--	--	--	--
	2015-16	6.76	--	27.86	14.54	--	--	--	--	--	--	--
	Change	-1.55	--	-0.06	1.85	--	--	--	--	--	--	--
Jamnagar	2008-09	--	--	395.37	677.31	--	0.03	45.42	18.20	--	--	4.01
	2015-16	--	--	410.37	688.91	--	0.11	45.25	18.20	--	--	4.01
	Change	--	--	15.01	11.60	--	0.08	-0.16	--	--	--	--
Junagadh	2008-09	--	--	170.59	338.06	3.73	0.64	11.79	--	--	--	116.31
	2015-16	--	--	162.43	368.19	3.73	1.33	10.26	--	--	--	116.31
	Change	--	--	-8.17	30.13	--	0.69	-1.53	--	--	--	--
Kachchh	2008-09	33.00	--	4815.35	2621.71	--	6.53	19.48	7.34	--	--	154.22
	2015-16	28.21	--	4854.76	2492.99	--	7.66	18.89	7.34	--	--	154.22
	Change	-4.78	--	39.41	-128.73	--	1.12	-0.59	--	--	--	--
Kheda	2008-09	3.45	--	107.10	93.72	0.20	--	4.32	--	--	--	1.32
	2015-16	3.09	--	97.17	98.43	0.75	--	4.54	--	--	--	1.32
	Change	-0.36	--	-9.94	4.71	0.55	--	0.23	--	--	--	--
Mahesana	2008-09	40.63	--	83.44	37.62	0.08	--	--	--	--	--	3.94
	2015-16	38.62	--	84.19	46.46	0.08	--	--	--	--	--	5.27
	Change	-2.01	--	0.76	8.84	--	--	--	--	--	--	1.34
Narmada	2008-09	6.22	--	59.08	18.65	--	--	--	--	--	--	102.98
	2015-16	4.10	--	57.35	19.34	--	--	--	--	--	--	102.96
	Change	-2.12	--	-1.73	0.69	--	--	--	--	--	--	-0.02

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	3.13	0.57	--	--	--	--	--	--	0.96	--	--	621.68	8707
--	4.35	0.57	0.08	--	--	--	--	0.13	0.96	--	--	616.98	
--	1.22	--	0.08	--	--	--	--	0.13	--	--	--	-4.70	
--	--	--	--	0.09	--	--	--	1.76	--	0.17	--	749.08	6760
--	--	--	--	0.09	--	--	--	2.87	--	0.17	--	769.34	
--	--	--	--	--	--	--	--	1.10	--	--	--	20.26	
--	--	0.14	--	--	--	--	--	--	--	--	--	107.42	3044
--	--	0.14	--	--	--	--	--	--	--	--	--	106.61	
--	--	--	--	--	--	--	--	--	--	--	--	-0.81	
5.79	2.93	0.14	--	--	--	--	--	0.46	0.04	1.43	--	726.93	12703
5.79	2.93	0.14	--	--	--	--	--	0.62	0.04	1.43	--	769.44	
--	--	--	--	--	--	--	--	0.15	--	--	--	42.50	
9.82	0.53	1.22	0.78	0.63	--	--	--	0.64	1.40	--	--	592.02	6244
9.82	0.53	1.22	0.72	0.03	--	--	--	1.16	2.03	--	--	586.01	
--	--	--	-0.05	-0.60	--	--	--	0.52	0.63	--	--	-6.02	
--	0.52	--	--	0.95	--	--	--	1.83	1.20	0.54	--	1454.96	11155
--	0.52	--	--	0.95	--	--	--	3.53	2.21	0.54	--	1425.59	
--	--	--	--	--	--	--	--	1.70	1.01	--	--	-29.37	
0.13	--	--	--	--	--	--	--	0.06	--	0.69	--	492.03	3609
3.85	--	--	--	--	--	--	--	0.24	--	0.69	--	493.07	
3.72	--	--	--	--	--	--	--	0.19	--	--	--	1.04	
--	--	--	--	--	--	--	--	--	0.14	--	--	49.06	649
--	--	--	--	--	--	--	--	--	0.15	--	--	49.32	
--	--	--	--	--	--	--	--	--	0.01	--	--	0.26	
--	0.86	13.26	--	11.47	--	--	--	16.93	2.15	3.74	--	1188.72	14125
--	0.86	13.26	--	14.69	--	--	--	17.01	2.15	3.74	--	1218.56	
--	--	--	--	3.22	--	--	--	0.08	--	--	--	29.83	
--	--	--	--	4.99	--	--	--	10.57	0.07	--	--	656.75	8306
--	--	--	--	5.12	--	--	--	12.07	0.16	--	--	679.59	
--	--	--	--	0.13	--	--	--	1.50	0.08	--	--	22.84	
--	--	0.23	--	12.28	--	--	--	22.30	5.42	0.39	--	7698.26	45652
--	--	0.23	--	11.09	--	--	--	28.65	5.86	0.70	--	7610.59	
--	--	--	--	-1.19	--	--	--	6.34	0.44	0.31	--	-87.67	
--	--	0.75	0.08	--	--	--	--	0.06	3.85	0.05	--	214.92	4150
--	--	0.75	0.08	--	--	--	--	0.11	4.83	0.05	--	211.12	
--	--	--	--	--	--	--	--	0.05	0.98	--	--	-3.80	
--	--	0.12	--	--	--	--	--	0.13	0.04	0.99	--	166.98	3343
--	--	0.12	--	--	--	--	--	0.16	0.04	0.99	--	175.94	
--	--	--	--	--	--	--	--	0.03	--	--	--	8.96	
195.25	--	2.47	--	--	--	--	--	0.21	--	0.04	--	384.91	2794
195.25	--	2.47	--	--	--	--	--	0.21	--	0.04	--	381.72	
--	--	--	--	--	--	--	--	--	--	--	--	-3.19	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Gujarat contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Navsari	2008-09	0.02	--	33.28	42.23	--	1.08	2.97	0.28	--	--	169.45
	2015-16	--	--	28.61	46.91	--	1.08	3.84	0.28	--	--	172.96
	Change	--	--	-4.67	4.67	--	--	0.87	--	--	--	3.51
PanchMahals	2008-09	--	--	242.66	101.93	--	--	--	--	--	--	55.58
	2015-16	--	--	225.67	115.44	--	--	--	--	--	--	55.67
	Change	--	--	-16.99	13.51	--	--	--	--	--	--	0.10
Patan	2008-09	--	--	193.52	106.11	--	--	34.30	--	--	--	0.06
	2015-16	--	--	197.45	126.84	--	0.63	35.55	--	--	--	0.06
	Change	--	--	3.93	20.73	--	0.63	1.25	--	--	--	--
Porbandar	2008-09	--	--	130.79	86.24	--	8.87	7.21	--	--	--	6.66
	2015-16	--	--	129.21	88.21	--	8.87	8.17	--	--	--	6.66
	Change	--	--	-1.59	1.97	--	--	0.96	--	--	--	--
Rajkot	2008-09	7.30	--	353.93	976.15	--	--	3.24	--	--	--	89.47
	2015-16	7.30	--	325.63	956.00	--	--	4.04	--	--	--	89.47
	Change	--	--	-28.31	-20.15	--	--	0.79	--	--	--	--
SabarKantha	2008-09	65.97	--	325.82	280.28	--	--	1.59	--	--	--	168.31
	2015-16	63.27	--	319.47	302.36	--	--	1.87	--	--	--	168.69
	Change	-2.69	--	-6.35	22.08	--	--	0.28	--	--	--	0.38
Surat	2008-09	--	--	152.78	89.30	12.91	7.68	17.55	--	--	--	78.60
	2015-16	--	--	125.10	92.27	12.91	7.64	20.42	--	--	--	78.57
	Change	--	--	-27.68	2.97	--	-0.04	2.87	--	--	--	-0.03
Surendranagar	2008-09	8.90	--	291.68	946.74	8.06	15.27	62.02	--	--	--	0.44
	2015-16	8.90	--	239.50	968.55	8.06	15.27	58.83	--	--	--	0.44
	Change	--	--	-52.18	21.80	--	--	-3.19	--	--	--	--
TheDangs	2008-09	--	--	14.44	34.81	--	--	--	--	--	--	44.39
	2015-16	--	--	14.68	19.62	--	--	--	--	--	--	42.61
	Change	--	--	0.24	-15.19	--	--	--	--	--	--	-1.78
Vadodara	2008-09	61.59	0.76	220.48	139.89	0.63	--	--	--	--	--	299.43
	2015-16	52.13	--	204.07	170.47	0.63	--	--	--	--	--	299.43
	Change	-9.45	-0.76	-16.41	30.57	--	--	--	--	--	--	--
Valsad	2008-09	--	--	28.73	31.25	0.67	0.20	1.55	--	--	--	242.55
	2015-16	--	--	26.39	34.01	0.67	0.20	2.04	--	--	--	242.95
	Change	--	--	-2.34	2.76	--	--	0.50	--	--	--	0.40
Grand Total	2008-09	243.13	0.76	9388.29	8284.91	30.93	46.60	636.47	142.37	--	--	2291.49
	2015-16	218.20	--	9168.10	8427.37	39.43	52.68	604.13	159.39	--	--	2291.95
	Change	-24.93	-0.76	-220.19	142.46	8.50	6.09	-32.35	17.02	--	--	0.46

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

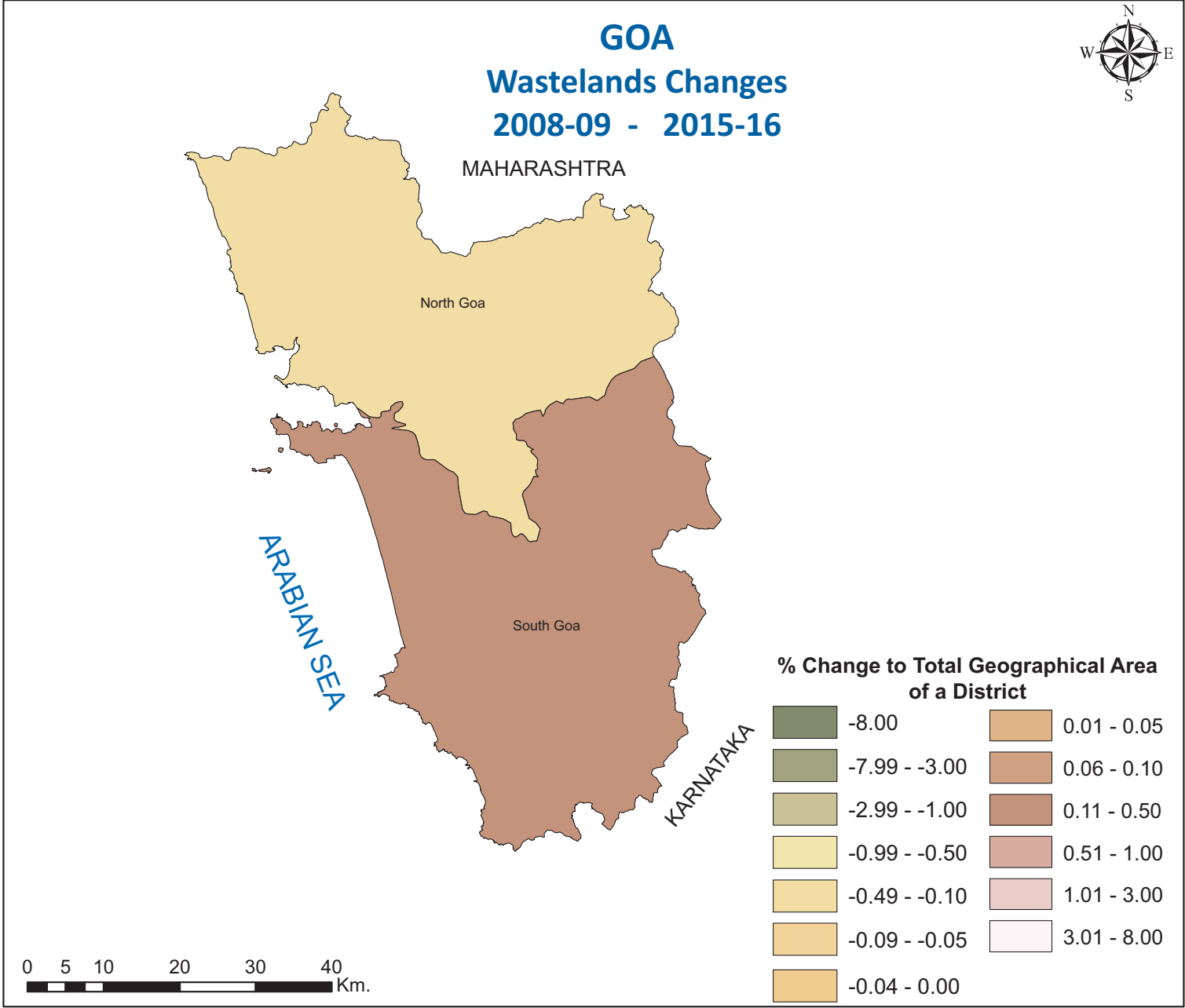
Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
14.39	0.18	--	--	--	--	--	--	0.03	--	3.44	--	267.34	2211
14.39	0.18	--	--	--	--	--	--	0.03	--	3.44	--	271.71	
--	--	--	--	--	--	--	--	--	--	--	--	4.36	
--	0.07	5.58	--	--	--	--	--	1.34	--	--	--	407.15	5257
--	0.07	12.18	--	--	--	--	--	1.39	--	--	--	410.42	
--	--	6.60	--	--	--	--	--	0.04	--	--	--	3.27	
--	0.04	28.74	0.06	--	--	--	--	--	--	--	--	362.84	5684
--	0.04	28.00	0.22	--	--	--	--	--	0.11	--	--	388.91	
--	--	-0.74	0.16	--	--	--	--	--	0.11	--	--	26.07	
--	--	--	--	62.67	--	--	--	5.71	0.06	0.18	--	308.39	2301
--	--	--	--	62.67	--	--	--	7.28	0.06	0.18	--	311.31	
--	--	--	--	--	--	--	--	1.57	--	--	--	2.92	
--	0.56	--	--	--	--	--	--	8.32	0.30	--	--	1439.28	11203
--	0.56	--	--	--	--	--	--	9.21	0.30	--	--	1392.51	
--	--	--	--	--	--	--	--	0.89	--	--	--	-46.77	
--	--	--	--	--	--	--	--	0.04	0.08	3.74	--	845.82	7390
0.03	--	--	--	--	--	--	--	0.32	0.08	3.74	--	859.84	
0.03	--	--	--	--	--	--	--	0.28	--	--	--	14.02	
36.01	--	--	--	--	--	--	--	1.64	2.23	--	--	398.70	7657
36.17	--	--	--	--	--	--	--	1.14	2.49	--	--	376.71	
0.16	--	--	--	--	--	--	--	-0.50	0.26	--	--	-22.00	
--	6.53	--	--	--	--	--	--	8.43	0.57	--	--	1348.64	10489
--	6.53	--	--	--	--	--	--	9.16	0.57	--	--	1315.80	
--	--	--	--	--	--	--	--	0.73	--	--	--	-32.84	
129.31	--	--	--	--	--	--	--	--	--	--	--	222.95	1764
131.09	--	--	--	--	--	--	--	--	--	--	--	208.00	
1.78	--	--	--	--	--	--	--	--	--	--	--	-14.95	
14.81	--	0.59	--	--	--	--	--	2.74	--	--	--	740.92	7794
14.81	--	0.59	--	--	--	--	--	3.10	--	--	--	745.23	
--	--	--	--	--	--	--	--	0.36	--	--	--	4.31	
59.55	0.04	0.14	--	0.11	--	--	--	--	--	--	--	364.79	3033
59.55	0.04	0.14	--	0.11	--	--	--	--	--	--	--	366.10	
--	--	--	--	--	--	--	--	--	--	--	--	1.31	
465.05	15.38	53.97	0.91	93.20	--	--	--	83.20	18.50	15.40	--	21810.55	196024
470.74	16.60	59.83	1.10	94.76	--	--	--	98.37	22.02	15.71	--	21740.39	
5.70	1.22	5.86	0.19	1.56	--	--	--	15.17	3.53	0.31	--	-70.16	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

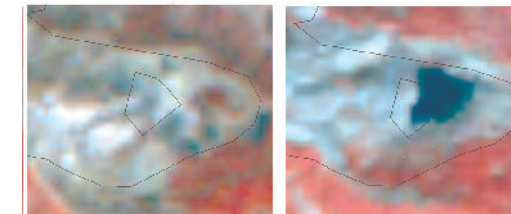
19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area



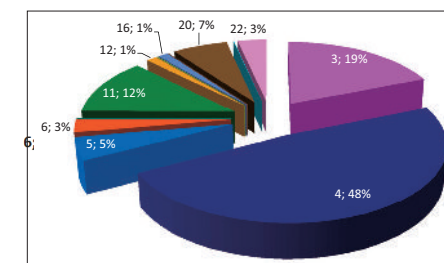
Salient Features

- Slight increase in area under wastelands by 1.11sq. km.
- North Goa district witnessed net decrease in wastelands by 2.28 sq. km.; Area with **open scrub land** category reduced by 4.33 sq. km.
- Slight increase in wastelands area (Dense Scrub) to the tune of 3.39 sq. km.in South Goa.
- 2 sq. km. of **land with open scrub** converted to cropland i.e., Wastelands to Non- Wasteland.

GOA Spatial Distribution of Wastelands 2015-16



Lat : 15°31'16.11"N Long : 74°3'44.5"E,
District : North - Goa
08-09 : Dense Scrub; 15-16 : Water bodies



0 4 8 16 24 32 Kms

Legend

- Gullied and/ or ravine land (Medium)
- Gullied and/ or ravine land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- District Boundary
- Railways
- Major Roads

Executed By Land Use & Cover Monitoring Divn.
LRUMG, Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011

Total Geog. Area (TGA): 3702.00 sq. km.
Total wasteland area : 515.66 sq. km.
Wasteland Percentage: 13.93

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

GOA
Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16											WL 2008-09 becoming non WL in 2015-16			2008-09			
	3	4	5	6	11	12	14	16	20	21	22	25	26	29	Category Total	Grand Total		
3	80.11	1.91							0.06			0.06			82.14	514.55		
4	17.47	245.31											2.00		264.78			
5			25.46												25.46			
6				13.98											13.98			
11					63.59									0.28	63.87			
12						6.34									6.34			
14							0.50								0.50			
16								6.35							6.35			
20		0.45							32.60						33.05			
21										0.39					0.39			
22											17.71				17.71			
999		1.88		0.61					0.97									
Category Total (2015-16)	97.58	249.55	25.46	14.58	63.59	6.34	0.50	6.35	33.62	0.39	17.71	0.06	2.00	0.28				
Grand Total (2015-16)	515.66																	

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3	0.06	1		
4	2.00	1	1.88	5
5				
6			0.61	2
11	0.28	1		
12				
14				
16				
20			0.97	2
21				
22				
Total	2.34	3	3.45	9

Wastelands becoming Non-wastelands (-) 2.34
 Non-wastelands becoming Wastelands (+) 3.45
 NET Change (2015 - 16)- (2008 - 09) (+) 1.11

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes		Non-Wasteland Classes	
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Goa

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11	12	13
North Goa	2008-09	--	--	44.35	154.75	16.30	9.81	--	--	--	--	33.67	1.57	--
	2015-16	--	--	46.71	150.42	16.30	9.81	--	--	--	--	33.39	1.57	--
	Change	--	--	2.36	-4.33	0.00	0.00	--	--	--	--	-0.28	0.00	--
South Goa	2008-09	--	--	37.79	110.02	9.16	4.17	--	--	--	--	30.19	4.77	--
	2015-16	--	--	50.87	99.13	9.16	4.77	--	--	--	--	30.19	4.77	--
	Change	--	--	13.08	-10.90	0.00	0.61	--	--	--	--	0.00	0.00	--
Grand Total	2008-09	--	--	82.14	264.78	25.46	13.98	--	--	--	--	63.87	6.34	--
	2015-16	--	--	97.58	249.55	25.46	14.58	--	--	--	--	63.59	6.34	--
	Change	--	--	15.44	-15.23	0.00	0.61	--	--	--	--	-0.28	0.00	--

Goa contd...

Wastelands Area Changes – 2008-09 and 2015-16

Area in sq.km

District	WL_Class	14	15	16	17	18	19	20	21	22	23	Total	TGA
North Goa	2008-09	--	--	3.14	--	--	--	17.31	--	1.12	--	282.02	1733
	2015-16	--	--	3.14	--	--	--	17.28	--	1.12	--	279.74	
	Change	--	--	0.00	--	--	--	-0.03	--	0.00	--	-2.28	
South Goa	2008-09	0.50	--	3.20	--	--	--	15.74	0.39	16.59	--	232.53	1969
	2015-16	0.50	--	3.20	--	--	--	16.34	0.39	16.59	--	235.92	
	Change	0.00	--	0.00	--	--	--	0.60	0.00	0.00	--	3.39	
Grand Total	2008-09	0.50	--	6.35	--	--	--	33.05	0.39	17.71	--	514.55	3702
	2015-16	0.50	--	6.35	--	--	--	33.62	0.39	17.71	--	515.66	
	Change	0.00	--	0.00	--	--	--	0.58	0.00	0.00	--	1.11	

TGA - Total Geographical Area

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	

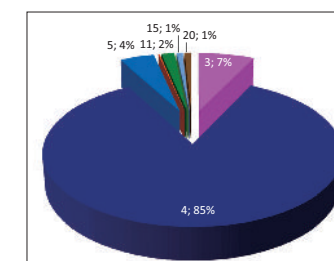
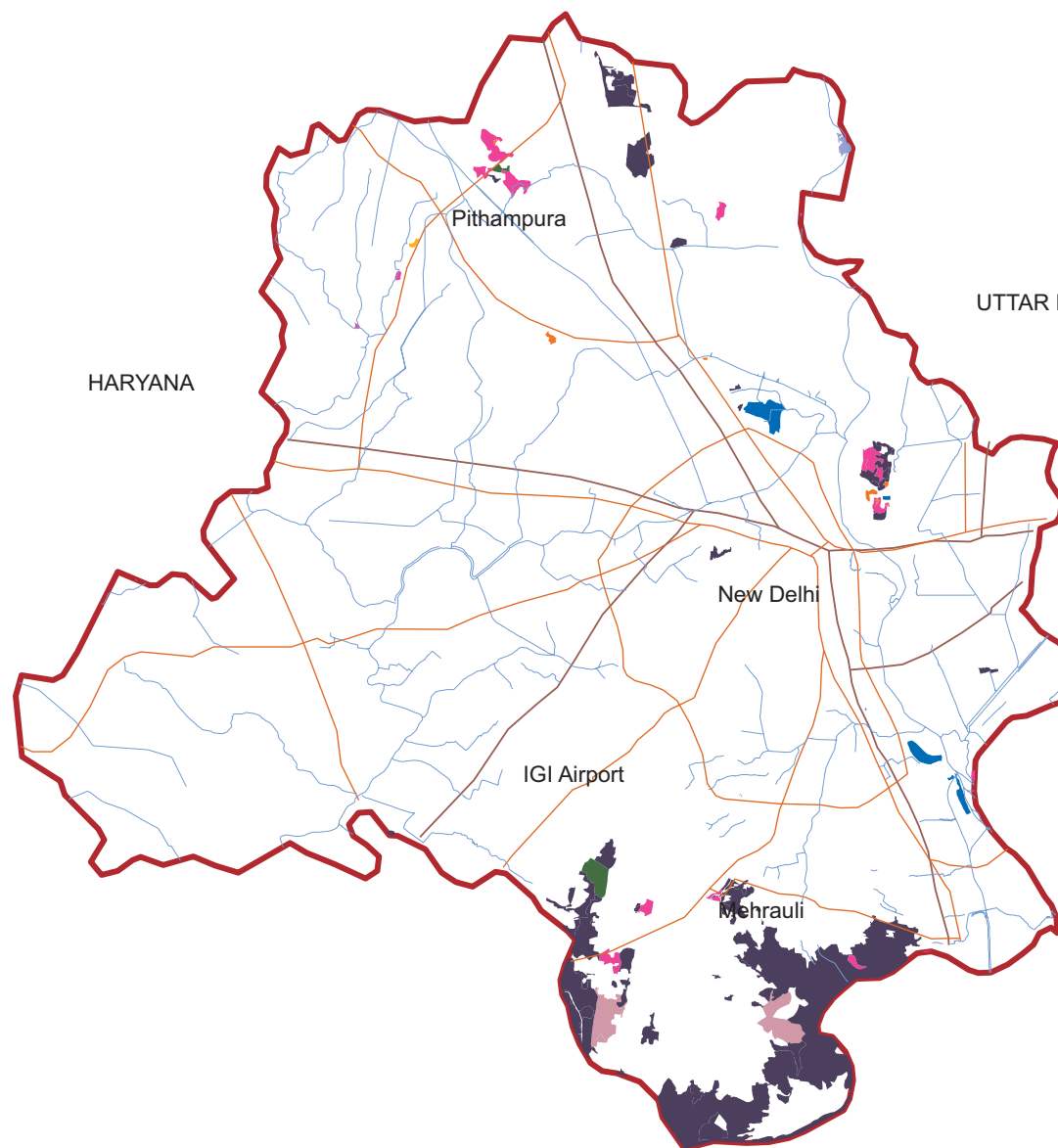


DELHI **Spatial Distribution of Wastelands** **2015-16**



Legend

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- International Boundary
- State Boundary
- District Boundary
- Railways
- Major Roads



Executed By Land Use & Cover Monitoring Divn. LRUMG, Remote Sensing Application National Remote Sensing Centre ISRO, Dept. of Space, GOI Balanagar, Hyderabad - 500037	Sponsored by Dept. of Land Resources Min. of Rural Development G - Wing, Nirman Bhawan GOI, New Delhi - 110 011
--	--

Total Geog. Area (TGA): 1483.00 sq. km.
 Total wasteland area : 81.27 sq. km.
 Wasteland Percentage: 5.48

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
 Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
 Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

DELHI**Wastelands Area Change Matrix : 2008-09 and 2015-16**

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16							2008-09	
	3	4	5	9	10	11	12	Category Total	Grand Total
3	5.76							5.76	80.5
4		68.63						68.63	
5			3.42					3.42	
6		0.34	0.18	0.13				0.65	
11					1.33			1.33	
20							0.71	0.71	
999		0.14		0.01		0.62			
Category Total (2015-16)	5.76	69.11	3.60	0.14	1.33	0.62	0.71		
Grand Total (2015-16)	81.27								

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3				
4			0.14	2
5				
6			0.01	1
11				
15			0.62	5
Total			0.77	8

Wastelands becoming Non-wastelands (-)

Non-wastelands becoming Wastelands (+)

NET Change (2015 - 16) - (2008 - 09) (-)

0.77

0.77

Green

Red

Blue

denotes Change from wasteland to non-wasteland

denotes change from non-wasteland to wastelands

denotes no change in the wasteland category

2008 - 09 Wastelands statistics are revised version.

Area under category total is rounded to nearest decimal.

Wasteland Classes

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land affected by salinity/alkalinity (Medium)
- Land affected by salinity/alkalinity (Strong)

Wasteland Classes

- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/ grazing land
- Degraded land under plantation crop
- Sands-Riverine
- Sands-Coastal

Wasteland Classes

- Sands-Desertic
- Sands-Semi Stab.-Stab>40m
- Sands-Semi Stab.-Stab 15-40m
- Mining Wastelands
- Industrial wastelands
- Barren Rocky/Stony waste
- Snow covered /Glacial area
- Non-Wasteland Area

Non-Wasteland Classes

- Built-up
- Industrial Area
- Cropland
- Fallow Land
- Plantation
- Forest-Dense/Open
- Forest Plantation
- Grasslands
- Waterbodies

Delhi

Wastelands Area Changes – 2008-09 and 2015-16

Area in sq.km

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Delhi	2008-09	--	--	5.76	68.63	3.42	0.65	--	--	--	--	1.33
	2015-16	--	--	5.76	69.11	3.60	0.14	--	--	--	--	1.33
	Change	--	--	--	0.48	0.18	-0.51	--	--	--	--	--

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

Delhi contd...

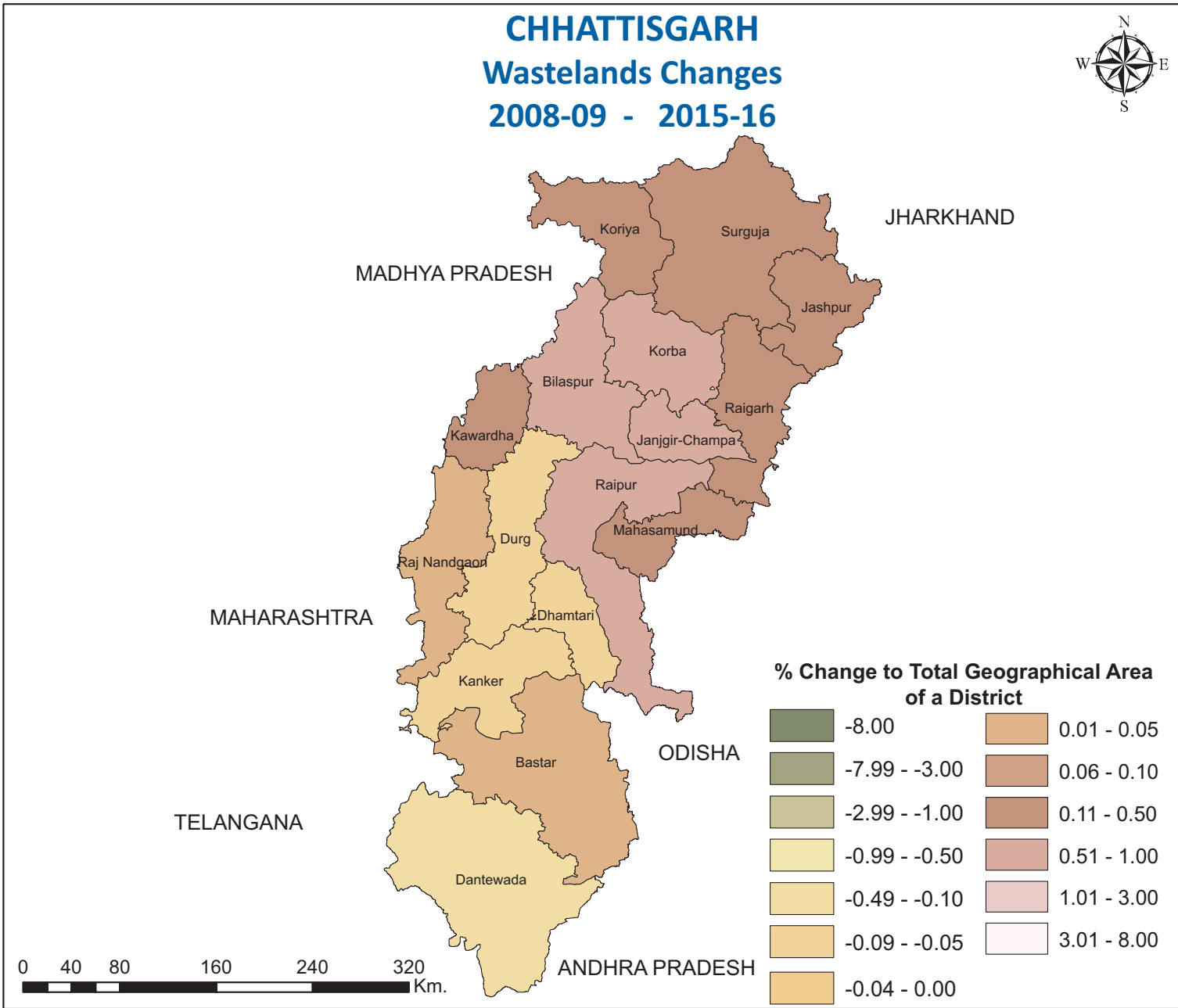
Wastelands Area Changes – 2008-09 and 2015-16

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	0.71	--	--	--	80.50	1483
--	--	--	0.62	--	--	--	--	0.71	--	--	--	81.27	
--	--	--	0.62	--	--	--	--	--	--	--	--	0.77	

TGA - Total Geographical Area

1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	



Salient Features

- Wastelands area has increased by 373.54 sq. km.
- Maximum increase in wastelands area is observed under **land with open scrub** (153.51 sq. km.) followed by **Under-utilized/degraded forest (Scrub dominated)** by 77.84 sq. km.
- Raipur district witnessed maximum increase in wasteland (105.30 sq. km.) with the highest change is observed under **land with open scrub** (87.61 sq. km.).
- 84.77 sq. km. of wasteland area is converted to forest with major contribution from **Under-utilized/degraded forest (Scrub dominated)**.

CHHATTISGARH

Spatial Distribution of Wastelands 2015-16



Legend

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- District Boundary
- Railways
- Major Roads

MAHARASHTRA

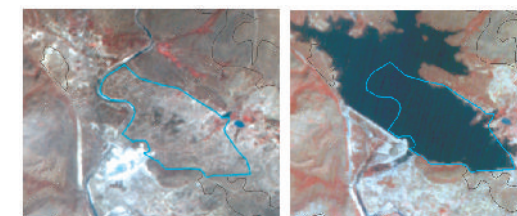
TELANGANA

MADHYA PRADESH

JHARKHAND

ODISHA

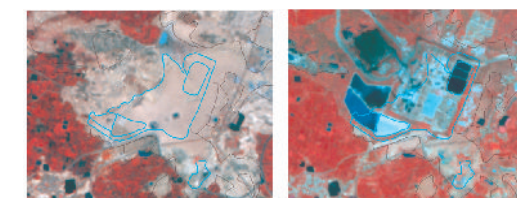
ANDHRA PRADESH



Lat : 21°57'15.43"N Long : 83°23'49.023"E

District : Durg

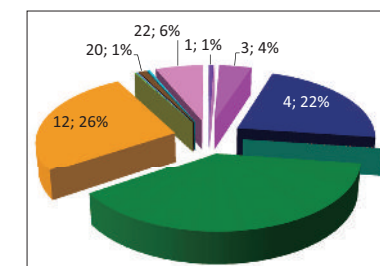
08-09 : Dense Scrub; 15-16 : Water bodies



Lat : 21°57'27.378"N Long : 82°24'46.788"E

District : Janjgir-Cham

08-09 : Open Scrub; 15-16 : Industry



0 25 50 100 150 200
KMs

Partner Inst. Chhattisgarh Council of Science & Technology
Vigyan Bhavan
MIG -25, Indravati Colony
Raipur – 492 007

Executed By Land Use & Cover Monitoring Divn.
LRUMG, Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011

Total Geog. Area (TGA): 135194.00 sq. km.
Total wasteland area : 10875.37 sq. km.
Wasteland Percentage: 8.04

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

CHHATTISGARH

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Category	WL during 2008-09 remaining as WL in 2015-16																WL 2008-09 becoming non_WL in 2015-16								2008-09	
	1	2	3	4	5	6	10	11	12	13	14	15	20	21	22	24	25	26	27	28	29	30	31	32	Category Total	Grand Total
1	64.30																								64.30	10501.83
2		12.07																							12.07	
3			430.14	6.96									1.00			5.45	2.06	11.21	0.73	1.52		0.08		0.77	459.93	
4			21.97	2175.47				0.26				0.23	5.90	4.05		4.76	9.55	17.89	1.12	3.87		0.91	0.28	6.79	2253.04	
5					0.82																				0.82	
6						1.93																			1.93	
10							0.16																		0.16	
11								3981.14	25.33				0.78		4.04	0.27				0.90	79.43	0.30		0.53	4092.71	
12						0.02		3.87	2816.06		0.12		0.28	0.53	0.04	0.48	0.35				5.34	0.07		1.13	2828.30	
13										0.09															0.09	
14											17.55														17.55	
15			0.90	0.09								23.73						2.28						3.83	30.83	
20													38.14				0.05								38.19	
21														15.99											15.99	
22													1.53	0.40	681.64	0.22	2.14								685.93	
999	0.90	3.36	18.13	224.02	0.05			185.29	25.52	0.29	0.30	2.81	60.73	16.29	0.13											
Category Total (2015-16)	65.21	15.43	471.14	2406.55	0.87	1.95	0.16	4170.55	2866.91	0.38	17.98	26.78	108.37	37.25	685.85	11.18	14.15	31.38	1.85	6.29	84.77	1.36	0.28	13.04		
Grand Total (2015-16)	10875.37																									

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1			0.90	3
2			3.36	2
3	21.82	98	18.13	89
4	45.17	267	224.02	1217
5			0.05	1
6				
10				
11	81.42	416	185.29	759
12	7.38	83	25.52	150
13			0.29	2
14			0.30	3
15	6.10	94	2.81	31
20	0.05	1	60.73	161
21			16.29	48
22	2.35	9	0.13	1
Total	164.30	968	537.84	2467

Wastelands becoming Non-wastelands (-) 164.30
 Non-wastelands becoming Wastelands (+) 537.84
 NET Change (2015 - 16) - (2008 - 09) (+) 373.54

Green denotes Change from wasteland to non-wasteland
 Red denotes change from non-wasteland to wastelands
 Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes				Non-Wasteland Classes			
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic		24. Built-up			
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m		25. Industrial Area			
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m		26. Cropland			
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands		27. Fallow Land			
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands		28. Plantation			
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste		29. Forest-Dense/Open			
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area		30. Forest Plantation			
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area		31. Grasslands			
				32. Waterbodies			

Chhattisgarh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Bastar	2008-09	--	--	33.90	91.87	0.54	0.44	--	--	--	--	404.05
	2015-16	--	--	32.90	100.92	0.54	0.44	--	--	--	--	400.62
	Change	--	--	-0.99	9.05	0.00	0.00	--	--	--	--	-3.43
Bilaspur	2008-09	9.30	2.48	43.22	168.28	--	--	--	--	--	--	97.64
	2015-16	9.39	2.48	53.95	176.11	--	--	--	--	--	--	113.81
	Change	0.09	0.00	10.73	7.83	--	--	--	--	--	--	16.17
Dantewada	2008-09	--	--	7.18	7.49	--	0.65	--	--	--	--	614.56
	2015-16	--	--	7.28	9.42	--	0.65	--	--	--	--	576.45
	Change	--	--	0.09	1.93	--	0.00	--	--	--	--	-38.11
Dhamtari	2008-09	--	--	2.22	19.37	--	0.20	--	--	--	--	116.85
	2015-16	--	--	2.36	17.97	--	0.20	--	--	--	--	115.41
	Change	--	--	0.15	-1.39	--	0.00	--	--	--	--	-1.44
Durg	2008-09	--	--	57.49	279.61	--	0.54	--	--	--	--	72.98
	2015-16	--	--	40.25	287.02	--	0.54	--	--	--	--	73.24
	Change	--	--	-17.25	7.41	--	0.00	--	--	--	--	0.26
Janjgir Champa	2008-09	--	--	5.59	130.40	--	--	--	--	--	--	21.95
	2015-16	--	--	9.49	142.84	--	--	--	--	--	--	33.06
	Change	--	--	3.90	12.44	--	--	--	--	--	--	11.11
Jashpur	2008-09	8.52	--	30.04	141.31	--	--	--	--	--	0.16	96.51
	2015-16	8.57	--	29.88	148.84	--	--	--	--	--	0.16	98.44
	Change	0.05	--	-0.16	7.53	--	--	--	--	--	0.00	1.93
Kanker	2008-09	--	--	15.44	30.82	--	--	--	--	--	--	92.24
	2015-16	--	--	15.86	29.50	--	--	--	--	--	--	88.13
	Change	--	--	0.42	-1.31	--	--	--	--	--	--	-4.11
Kawardha	2008-09	--	--	3.30	30.37	--	--	--	--	--	--	86.12
	2015-16	--	--	4.63	31.69	--	--	--	--	--	--	96.75
	Change	--	--	1.34	1.32	--	--	--	--	--	--	10.63
Korba	2008-09	3.15	--	47.41	193.20	0.28	--	--	--	--	--	300.41
	2015-16	3.92	--	49.56	202.13	0.28	--	--	--	--	--	341.26
	Change	0.77	--	2.15	8.93	0.00	--	--	--	--	--	40.85
Koriya	2008-09	7.16	4.80	9.73	107.12	--	--	--	--	--	--	392.95
	2015-16	7.16	4.80	9.73	108.72	--	--	--	--	--	--	401.74
	Change	0.00	0.00	0.00	1.59	--	--	--	--	--	--	8.78
Mahasamund	2008-09	3.88	--	35.47	85.63	--	0.04	--	--	--	--	97.15
	2015-16	3.88	--	35.98	85.78	--	0.04	--	--	--	--	99.53
	Change	0.00	--	0.51	0.15	--	0.00	--	--	--	--	2.37
Raigarh	2008-09	0.18	--	38.95	141.76	--	--	--	--	--	--	222.67
	2015-16	0.18	--	39.15	136.83	--	--	--	--	--	--	239.83
	Change	0.00	--	0.20	-4.92	--	0.00	--	--	--	--	17.16
Raipur	2008-09	--	--	29.75	274.75	--	0.01	--	--	--	--	376.35
	2015-16	--	--	39.83	362.36	--	0.03	--	--	--	--	368.23
	Change	--	--	10.07	87.61	--	0.02	--	--	--	--	-8.12

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravineous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravineous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
222.28	--	--	--	--	--	--	--	0.39	--	35.15	--	788.62	14974
222.28	--	--	--	--	--	--	--	0.71	--	35.15	--	793.56	
0.00	--	--	--	--	--	--	--	0.32	--	0.00	--	4.94	
78.68	--	0.92	2.65	--	--	--	--	2.60	1.07	5.37	--	412.22	7215
80.37	--	0.92	0.72	--	--	--	--	3.47	4.83	3.64	--	449.68	
1.69	--	0.00	-1.93	--	--	--	--	0.86	3.76	-1.73	--	37.46	
897.88	--	--	--	--	--	--	--	3.92	--	35.64	--	1567.32	17634
911.31	--	--	--	--	--	--	--	4.45	--	35.64	--	1545.19	
13.43	--	--	--	--	--	--	--	0.53	--	0.00	--	-22.13	
36.12	--	--	2.44	--	--	--	--	0.12	--	0.74	--	178.05	4049
35.89	--	--	1.42	--	--	--	--	0.12	--	0.74	--	174.12	
-0.23	--	--	-1.01	--	--	--	--	0.00	--	0.00	--	-3.93	
13.44	--	--	0.65	--	--	--	--	6.40	3.79	22.53	--	457.42	8537
14.45	--	--	0.06	--	--	--	--	8.28	3.79	22.34	--	449.96	
1.01	--	--	-0.59	--	--	--	--	1.87	0.00	-0.19	--	-7.46	
1.09	--	--	3.71	--	--	--	--	2.91	0.53	12.02	--	178.18	3672
1.03	--	--	3.27	--	--	--	--	6.91	4.14	10.93	--	211.66	
-0.06	--	--	-0.44	--	--	--	--	4.00	3.61	-1.09	--	33.48	
39.27	--	--	0.11	--	--	--	--	0.65	--	55.91	--	372.47	5838
39.28	0.14	--	0.11	--	--	--	--	1.60	--	56.05	--	383.06	
0.02	0.14	--	0.00	--	--	--	--	0.95	--	0.13	--	10.59	
129.61	--	--	--	--	--	--	--	--	--	7.79	--	275.88	6506
130.04	--	--	--	--	--	--	--	0.14	--	7.79	--	271.47	
0.44	--	--	--	--	--	--	--	0.14	--	0.00	--	-4.42	
72.21	--	--	0.07	--	--	--	--	0.35	--	0.14	--	192.56	4223
70.78	--	--	--	--	--	--	--	4.17	0.38	0.14	--	208.55	
-1.42	--	--	-0.07	--	--	--	--	3.82	0.38	0.00	--	15.99	
186.98	--	1.40	7.98	--	--	--	--	4.48	5.55	87.14	--	837.98	9010
191.16	--	1.40	8.09	--	--	--	--	20.15	14.21	87.14	--	919.29	
4.18	--	0.00	0.11	--	--	--	--	15.67	8.66	0.00	--	81.31	
81.14	--	0.09	0.60	--	--	--	--	3.05	--	100.19	--	706.83	6604
81.19	--	0.09	0.60	--	--	--	--	4.94	--	100.20	--	719.15	
0.05	--	0.00	0.00	--	--	--	--	1.89	--	0.01	--	12.33	
55.87	--	--	0.81	--	--	--	--	1.07	0.02	28.97	--	308.92	4702
56.91	--	0.09	0.81	--	--	--	--	2.94	0.18	29.32	--	315.45	
1.04	--	0.09	0.00	--	--	--	--	1.87	0.15	0.35	--	6.52	
53.09	0.09	--	0.76	--	--	--	--	3.20	4.80	89.53	--	555.02	7086
54.79	0.09	--	0.76	--	--	--	--	16.21	8.45	89.09	--	585.39	
1.70	0.00	--	0.00	--	--	--	--	13.01	3.65	-0.44	--	30.36	
252.94	--	--	7.51	--	--	--	--	0.86	0.22	119.22	--	1061.61	12507
254.23	--	--	7.77	--	--	--	--	11.14	1.24	122.10	--	1166.91	
1.29	--	--	0.26	--	--	--	--	10.28	1.02	2.88	--	105.30	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Chhattisgarh contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Raj Nandgaon	2008-09	--	--	6.02	169.22	--	--	--	--	--	--	153.69
	2015-16	--	--	6.20	166.29	--	--	--	--	--	--	158.24
	Change	--	--	0.17	-2.93	--	--	--	--	--	--	4.54
Surguja	2008-09	32.13	4.79	94.22	381.84	--	0.05	--	--	--	--	946.60
	2015-16	32.13	8.15	94.10	400.13	0.05	0.05	--	--	--	--	965.83
	Change	0.00	3.36	-0.12	18.29	0.05	0.00	--	--	--	--	19.22
Grand Total	2008-09	64.30	12.07	459.93	2253.04	0.82	1.93	--	--	--	0.16	4092.71
	2015-16	65.21	15.43	471.14	2406.55	0.87	1.95	--	--	--	0.16	4170.55
	Change	0.90	3.36	11.22	153.51	0.05	0.02	--	--	--	0.00	77.84

Chhattisgarh contd...

Wastelands Area Changes – 2008-09 and 2015-16

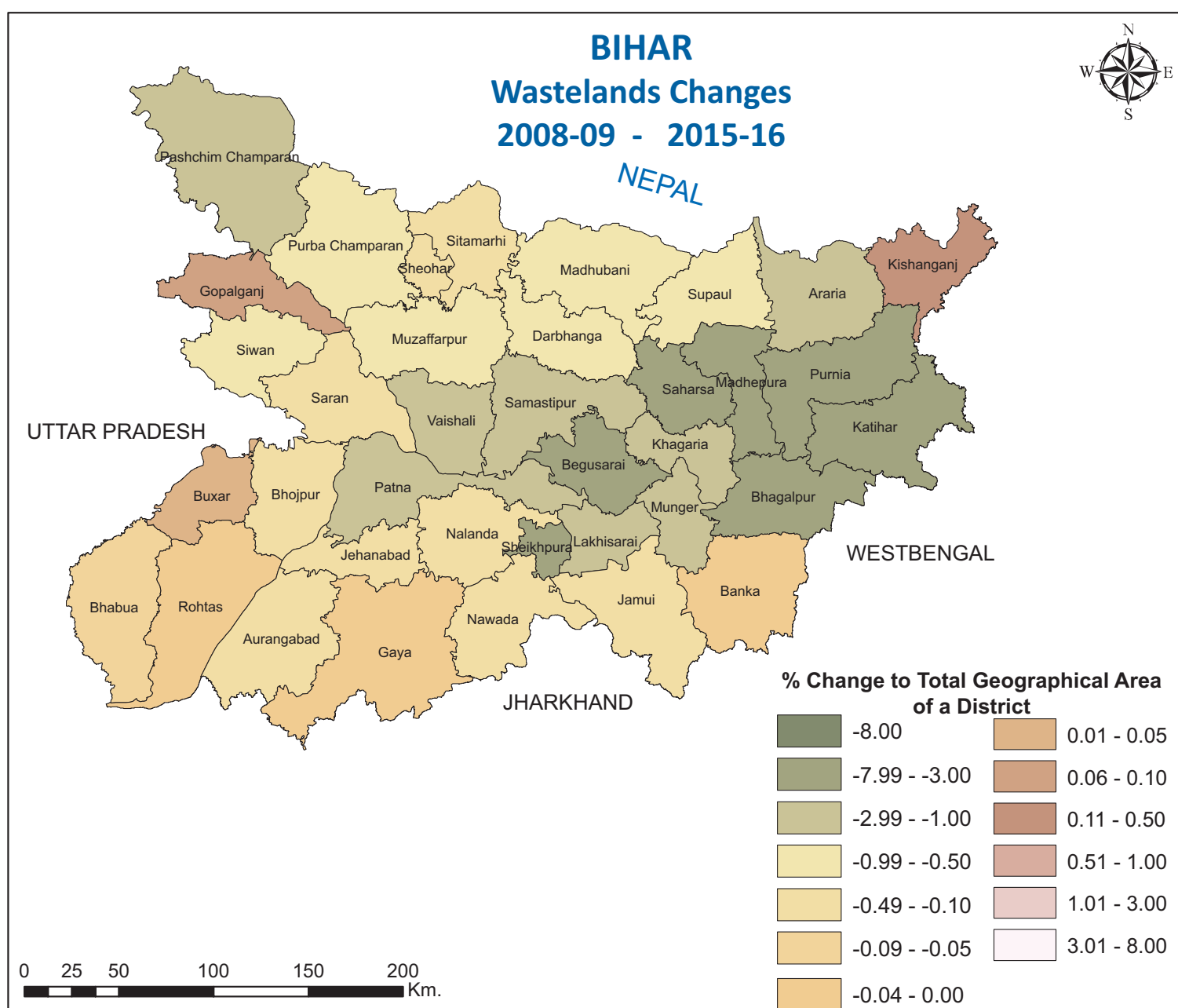
Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
120.13	--	--	0.93	--	--	--	--	0.73	--	4.97	--	455.69	6904
121.43	--	--	--	--	--	--	--	0.67	--	4.97	--	457.81	
1.31	--	--	-0.93	--	--	--	--	-0.05	--	0.00	--	2.12	
587.57	--	15.14	2.62	--	--	--	--	7.47	--	80.63	--	2153.05	15733
601.77	0.15	15.47	3.16	--	--	--	--	22.46	0.04	80.63	--	2224.12	
14.20	0.15	0.33	0.54	--	--	--	--	15.00	0.04	0.00	--	71.07	
2828.30	0.09	17.55	30.83	--	--	--	--	38.19	15.99	685.93	--	10501.83	135194
2866.91	0.38	17.98	26.78	--	--	--	--	108.37	37.25	685.85	--	10875.37	
38.62	0.29	0.43	-4.05	--	--	--	--	70.17	21.27	-0.08	--	373.54	

1. Gullied and/ or ravinous land (Medium)
2. Gullied and/ or ravinous land (Deep)
3. Land with Dense Scrub
4. Land with Open Scrub
5. Waterlogged and Marshy land (Permanent)
6. Waterlogged and Marshy land (Seasonal)
7. Land affected by salinity/alkalinity (Medium)
8. Land affected by salinity/alkalinity (Strong)

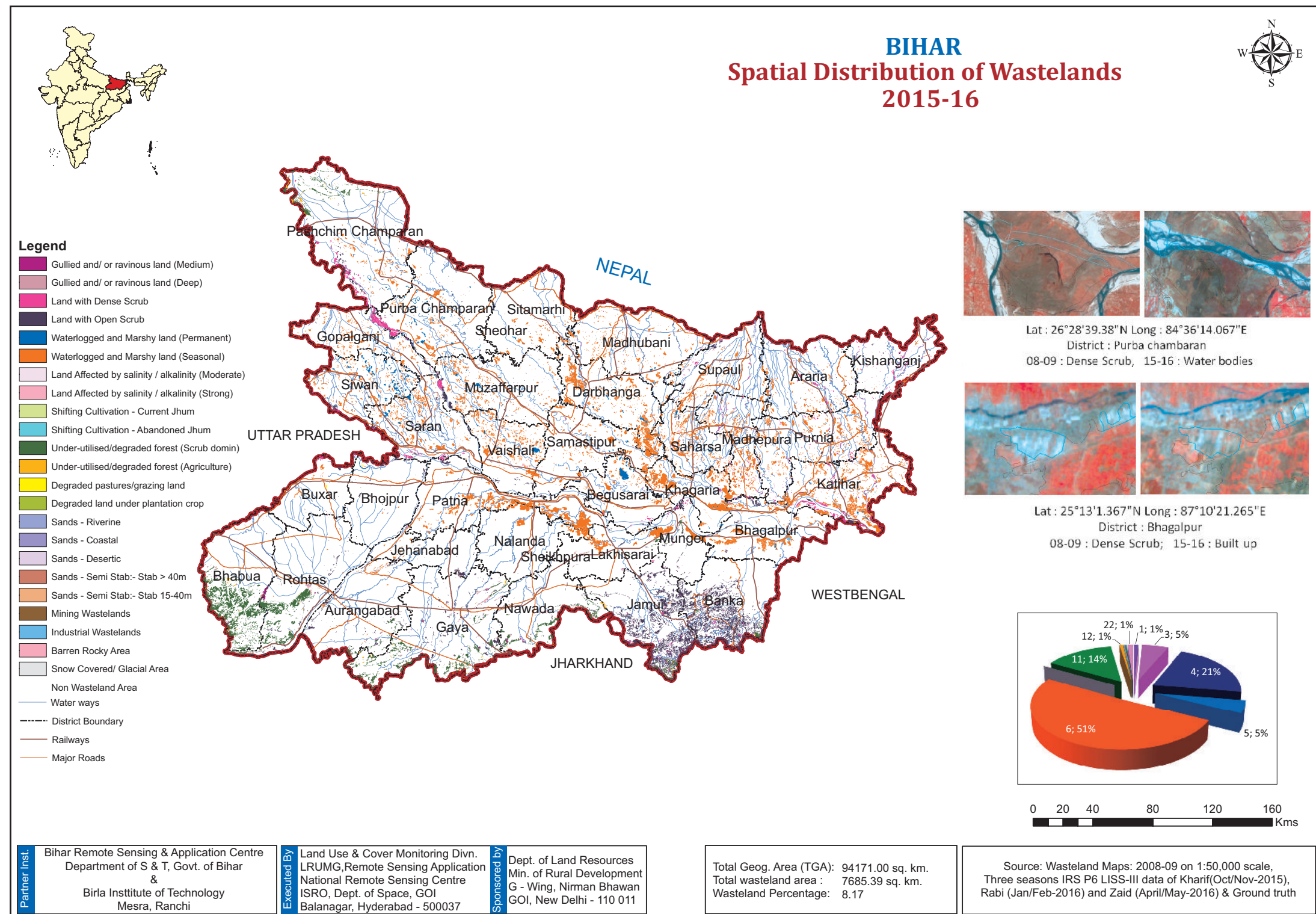
9. Shifting Cultivation - Current Jhum
10. Shifting Cultivation - Abandoned Jhum
11. Under-utilised/degraded forest (Scrub domin)
12. Under-utilised/degraded forest (Agriculture)
13. Degraded pastures/ grazing land
14. Degraded land under plantation crop
15. Sands-Riverine
16. Sands-Coastal

17. Sands-Desertic
18. Sands-Semi Stab.-Stab>40m
19. Sands-Semi Stab.-Stab 15-40m
20. Mining Wastelands
21. Industrial wastelands
22. Barren Rocky/Stony waste
23. Snow covered /Glacial area



Salient Features

- Overall decrease in wastelands area by 1130.07 sq. km.
- Decrease in **waterlogged** area by 840.37sq. km.
- Decrease in **land with open scrub** by 162.60 sq. km.
- Decrease in **land with dense scrub** by 60.19 sq. km.
- Maximum decrease of wastelands area observed in Bhagalpur district by 159.96 sq. km.; **Waterlogged and Marshy land (seasonal)** area witnessed maximum decrease of 123.14 sq. km.
- Purnia district witnessed a decrease in area under wastelands by 112.19 sq. km.; maximum decrease observed in **Waterlogged (seasonal)** by 100.12 sq. km.
- Wastelands in the State have gone through a metamorphosis from wastelands to non-wastelands (crop land) that accounted for an area of 1335.37sq. km. Highest contribution was by **waterlogged and marshy land (seasonal)** – 1119.23 sq. km., followed by **land with open scrub** by 124.49 sq. km. and **land with dense scrub** by 73.12sq. km.



BIHAR Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16													WL 2008-09 becoming non WL in 2015-16							2008-09	
	1	3	4	5	6	7	11	12	13	15	20	21	22	24	25	26	27	28	29	32	Grand Total	Category Total
1	66.99															0.05				1.10	68.14	8815.45
3		356.60	3.34	0.10	11.20					1.33	0.02			0.14		73.12		1.33		33.69	480.87	
4		2.91	1583.76	0.37	22.50	0.18				0.61	1.06		0.14	1.43	1.63	124.49	2.25	1.71		48.98	1792.02	
5			0.49	343.38	87.10									0.15	0.16	12.29		0.25		0.30	444.11	
6		0.61	1.28	15.87	3590.55									3.93	1.79	1119.23	1.87	3.26		5.90	4744.29	
7						1.08															1.08	
8			0.03													0.05	0.12				0.21	
11							1093.64	1.69											1.79	2.82	1099.94	
12								51.40												0.04	51.43	
13			0.04						3.53							3.20					6.77	
15			0.18							17.19						2.93	0.28	0.14		0.32	21.03	
20											8.66										8.66	
21												7.86									7.86	
22													89.05								89.05	
999		60.55	40.30	14.81	192.57	0.07	9.13			2.09	1.14											
Category Total (2015-16)	66.99	420.68	1629.42	374.52	3903.92	1.33	1102.77	53.08	3.53	21.21	10.88	7.86	89.19	5.65	3.58	1335.37	4.52	6.69	1.79	93.14		
Grand Total (2015-16)	7685.39																					

WL Categories	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	1.16	7		
3	108.28	359	60.55	91
4	180.49	860	40.30	105
5	13.15	50	14.81	69
6	1135.98	1362	192.57	298
7			0.07	2
8	0.17	3		
11	4.61	26	9.13	38
12	0.04	1		
13	3.20	7		
15	3.66	34	2.09	19
20			1.14	4
21				
22				
Total	1450.73	2709	320.67	626

Wastelands becoming Non-wastelands (-) 1450.73
Non-wastelands becoming Wastelands (+) 320.67
NET Change (2015 - 16) - (2008 - 09) (-) 1130.07

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
2008 - 09 Wastelands statistics are revised version.
Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Bihar

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Araria	2008-09	--	--	19.03	9.10	3.43	115.45	--	--	--	--	--
	2015-16	--	--	18.40	7.41	4.14	89.24	--	--	--	--	--
	Change	--	--	-0.64	-1.69	0.71	-26.21	--	--	--	--	0.00
Aurangabad	2008-09	0.90	--	0.34	53.31	2.26	19.52	--	--	--	--	30.01
	2015-16	0.90	--	0.34	50.20	1.92	16.87	--	--	--	--	29.76
	Change	0.00	--	0.00	-3.12	-0.34	-2.65	--	--	--	--	-0.25
Banka	2008-09	12.09	--	7.41	509.07	--	--	--	--	--	--	15.74
	2015-16	12.09	--	7.36	506.85	--	1.14	--	--	--	--	15.74
	Change	0.00	--	-0.05	-2.22	--	1.14	--	--	--	--	0.00
Begusarai	2008-09	--	--	12.93	11.71	35.14	142.35	--	--	--	--	--
	2015-16	--	--	7.21	5.55	39.83	81.25	--	--	--	--	--
	Change	--	--	-5.72	-6.16	4.69	-61.10	--	--	--	--	--
Bhabua	2008-09	3.90	--	0.13	16.15	--	1.20	--	--	--	--	413.30
	2015-16	3.04	--	0.08	14.34	--	1.20	--	--	--	--	413.22
	Change	-0.86	--	-0.05	-1.82	--	0.00	--	--	--	--	-0.08
Bhagalpur	2008-09	--	--	6.66	56.07	18.17	331.47	--	--	--	--	--
	2015-16	--	--	4.03	30.71	9.34	208.34	--	--	--	--	--
	Change	--	--	-2.63	-25.36	-8.84	-123.14	--	--	--	--	--
Bhojpur	2008-09	--	--	0.37	24.40	4.73	3.34	0.36	--	--	--	--
	2015-16	--	--	0.37	20.46	4.73	3.30	0.42	--	--	--	--
	Change	--	--	0.00	-3.94	0.00	-0.03	0.06	--	--	--	--
Buxar	2008-09	--	--	5.46	8.96	--	15.60	--	--	--	--	--
	2015-16	--	--	5.60	8.68	--	15.34	--	--	--	--	--
	Change	--	--	0.15	-0.28	--	-0.26	--	--	--	--	--
Darbhanga	2008-09	--	--	1.95	1.76	25.60	234.93	--	--	--	--	--
	2015-16	--	--	0.66	1.68	21.61	226.85	--	--	--	--	--
	Change	--	--	-1.29	-0.09	-3.98	-8.08	--	--	--	--	--
Gaya	2008-09	4.94	--	3.75	92.45	0.31	1.54	--	--	--	--	200.45
	2015-16	4.94	--	3.90	90.00	0.31	1.54	--	--	--	--	200.13
	Change	0.00	--	0.15	-2.46	0.00	0.00	--	--	--	--	-0.32
Gopalganj	2008-09	--	--	19.90	8.38	14.02	115.29	--	--	--	--	--
	2015-16	--	--	38.34	12.70	10.27	98.02	--	--	--	--	--
	Change	--	--	18.45	4.32	-3.75	-17.27	--	--	--	--	--
Jamui	2008-09	28.03	--	10.20	511.52	--	--	--	--	--	--	35.91
	2015-16	28.03	--	10.09	502.55	--	1.09	--	--	--	--	35.91
	Change	0.00	--	-0.11	-8.97	--	1.09	--	--	--	--	0.00
Jehanabad	2008-09	--	--	0.55	16.69	0.19	11.99	--	--	--	--	--
	2015-16	--	--	0.55	16.62	0.19	8.83	--	--	--	--	--
	Change	--	--	0.00	-0.07	0.00	-3.16	--	--	--	--	--
Katihar	2008-09	--	--	68.76	29.33	7.70	483.10	--	--	--	--	--
	2015-16	--	--	73.10	24.13	13.96	374.36	--	--	--	--	--
	Change	--	--	4.33	-5.20	6.26	-108.74	--	--	--	--	--

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	0.31	--	--	--	--	--	--	--	--	147.33	2792
--	--	--	0.16	--	--	--	--	--	--	--	--	119.35	
0.00	--	--	-0.15	--	--	--	--	--	--	--	--	-27.98	
0.15	--	--	0.17	--	--	--	--	0.44	--	3.18	--	110.28	3305
0.42	--	--	0.25	--	--	--	--	2.29	--	3.18	--	106.14	
0.28	--	--	0.08	--	--	--	--	1.85	--	0.00	--	-4.14	
0.59	--	--	--	--	--	--	--	1.55	--	15.31	--	561.76	3018
0.59	--	--	--	--	--	--	--	1.55	--	15.31	--	560.63	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-1.14	
--	--	--	0.04	--	--	--	--	--	2.44	--	--	204.62	1889
--	--	--	--	--	--	--	--	--	2.44	--	--	136.28	
--	--	--	-0.04	--	--	--	--	--	0.00	--	--	-68.34	
8.10	--	--	--	--	--	--	--	--	--	6.37	--	449.16	3369
8.81	--	--	--	--	--	--	--	--	--	6.37	--	447.06	
0.71	--	--	--	--	--	--	--	--	--	0.00	--	-2.10	
--	--	--	--	--	--	--	--	--	5.22	0.96	--	418.55	2561
--	--	--	--	--	--	--	--	--	5.22	0.96	--	258.59	
--	--	--	--	--	--	--	--	--	0.00	0.00	--	-159.96	
--	4.70	--	0.45	--	--	--	--	0.07	--	--	--	38.42	2474
--	1.50	--	0.45	--	--	--	--	0.07	--	--	--	31.30	
--	-3.20	--	0.00	--	--	--	--	0.00	--	--	--	-7.12	
--	1.76	--	0.27	--	--	--	--	0.44	--	--	--	32.48	1624
--	1.76	--	0.90	--	--	--	--	0.54	--	--	--	32.83	
--	0.00	--	0.63	--	--	--	--	0.10	--	--	--	0.34	
--	0.11	--	0.11	--	--	--	--	0.17	--	--	--	264.62	2279
--	0.11	--	0.11	--	--	--	--	0.17	--	--	--	251.19	
--	0.00	--	0.00	--	--	--	--	0.00	--	--	--	-13.44	
11.92	--	--	--	--	--	--	--	0.91	--	23.52	--	339.79	4976
12.59	--	--	--	--	--	--	--	0.91	--	23.52	--	337.83	
0.67	--	--	--	--	--	--	--	0.00	--	0.00	--	-1.96	
--	--	--	--	--	--	--	--	--	--	--	--	157.59	2033
--	--	--	--	--	--	--	--	--	--	--	--	159.33	
--	--	--	--	--	--	--	--	--	--	--	--	1.74	
4.59	--	--	0.36	--	--	--	--	--	--	7.28	--	597.89	3143
4.59	--	--	0.36	--	--	--	--	--	--	7.42	--	590.04	
0.00	--	--	0.00	--	--	--	--	--	--	0.14	--	-7.84	
--	--	--	--	--	--	--	--	--	--	1.15	--	30.58	1569
--	--	--	--	--	--	--	--	--	--	1.15	--	27.35	
--	--	--	--	--	--	--	--	--	--	0.00	--	-3.23	
--	--	--	0.14	--	--	--	--	--	--	--	--	589.04	3057
--	--	--	--	--	--	--	--	--	--	--	--	485.55	
--	--	--	-0.14	--	--	--	--	--	--	--	--	-103.49	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Bihar Contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Khagaria	2008-09	--	--	2.98	1.86	0.85	282.38	--	--	--	--	--
	2015-16	--	--	3.03	2.14	6.68	234.51	--	--	--	--	--
	Change	--	--	0.06	0.28	5.82	-47.87	--	--	--	--	--
Kishanganj	2008-09	--	--	34.07	9.24	1.70	5.31	--	--	--	--	--
	2015-16	--	--	31.62	8.72	1.97	12.30	--	--	--	--	--
	Change	--	--	-2.44	-0.52	0.27	6.99	--	--	--	--	--
Lakhisarai	2008-09	--	--	0.28	13.43	--	96.76	--	--	--	--	9.76
	2015-16	--	--	0.23	7.31	--	80.69	--	--	--	--	9.76
	Change	--	--	-0.04	-6.12	--	-16.06	--	--	--	--	0.00
Madhepura	2008-09	--	--	22.66	10.63	1.42	276.56	--	--	--	--	--
	2015-16	--	--	20.44	10.65	2.03	209.02	--	--	--	--	--
	Change	--	--	-2.22	0.02	0.61	-67.54	--	--	--	--	--
Madhubani	2008-09	--	--	4.16	5.61	8.65	155.33	--	--	--	--	--
	2015-16	--	--	4.12	10.98	8.07	131.17	--	--	--	--	--
	Change	--	--	-0.05	5.37	-0.59	-24.16	--	--	--	--	--
Munger	2008-09	0.41	--	21.20	22.20	0.18	76.99	--	--	--	--	7.29
	2015-16	0.41	--	8.56	24.33	0.32	68.70	--	--	--	--	7.29
	Change	0.00	--	-12.63	2.13	0.13	-8.29	--	--	--	--	0.00
Muzaffarpur	2008-09	--	--	11.11	31.38	58.42	148.54	--	0.17	--	--	--
	2015-16	--	--	12.22	28.19	27.55	154.80	--	--	--	--	--
	Change	--	--	1.11	-3.19	-30.86	6.26	--	-0.17	--	--	0.00
Nalanda	2008-09	--	--	--	1.31	--	114.40	--	--	--	--	0.74
	2015-16	--	--	--	0.95	--	106.34	--	--	--	--	0.74
	Change	--	--	--	-0.36	--	-8.06	--	--	--	--	--
Nawada	2008-09	6.90	--	0.80	20.25	--	0.50	--	--	--	--	93.62
	2015-16	6.85	--	0.54	17.93	--	--	--	--	--	--	93.62
	Change	-0.05	--	-0.26	-2.32	--	-0.50	--	--	--	--	0.00
Pashchim Cham- paran	2008-09	--	--	79.24	84.30	9.06	85.07	--	--	--	--	84.75
	2015-16	--	--	49.66	36.07	9.35	83.27	--	--	--	--	87.22
	Change	--	--	-29.58	-48.24	0.29	-1.80	--	--	--	--	2.46
Patna	2008-09	--	--	1.62	28.20	1.18	405.03	--	--	--	--	--
	2015-16	--	--	0.93	17.72	1.13	324.01	--	--	--	--	--
	Change	--	--	-0.69	-10.48	-0.05	-81.01	--	--	--	--	--
Purba Champaran	2008-09	--	--	43.00	31.87	52.15	105.60	--	--	--	--	--
	2015-16	--	--	38.30	25.74	51.07	97.65	--	--	--	--	--
	Change	--	--	-4.71	-6.13	-1.08	-7.95	--	--	--	--	--
Purnia	2008-09	--	--	34.64	15.05	5.18	332.97	--	--	--	--	--
	2015-16	--	--	27.49	9.70	5.61	232.86	--	--	--	--	--
	Change	--	--	-7.15	-5.35	0.43	-100.12	--	--	--	--	--
Rohtas	2008-09	10.97	--	0.71	44.43	0.14	1.82	0.72	--	--	--	208.36
	2015-16	10.73	--	0.47	41.81	0.14	1.43	0.92	--	--	--	209.38
	Change	-0.24	--	-0.24	-2.62	0.00	-0.40	0.19	--	--	--	1.01

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravine land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravine land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	--	--	--	--	--	--	--	--	288.06	1482
--	--	--	--	--	--	--	--	--	--	--	--	246.36	
--	--	--	--	--	--	--	--	--	--	--	--	-41.71	
--	--	--	--	--	--	--	--	--	--	--	--	50.32	1936
--	--	--	--	--	--	--	--	--	--	--	--	54.62	
--	--	--	--	--	--	--	--	--	--	--	--	4.30	
--	--	--	--	--	--	--	--	--	--	2.44	--	122.65	1342
--	--	--	--	--	--	--	--	--	--	2.44	--	100.43	
--	--	--	--	--	--	--	--	--	--	0.00	--	-22.23	
--	--	--	0.31	--	--	--	--	--	--	--	--	311.59	1792
--	--	--	0.75	--	--	--	--	--	--	--	--	242.90	
--	--	--	0.44	--	--	--	--	--	--	--	--	-68.69	
--	--	--	0.07	--	--	--	--	0.08	--	--	--	173.92	3501
--	--	--	--	--	--	--	--	0.08	--	--	--	154.42	
--	--	--	-0.07	--	--	--	--	0.00	--	--	--	-19.49	
0.02	--	--	0.13	--	--	--	--	--	--	2.60	--	131.03	1397
0.02	--	--	--	--	--	--	--	--	--	2.60	--	112.24	
0.00	--	--	-0.13	--	--	--	--	--	--	0.00	--	-18.79	
--	--	--	--	--	--	--	--	--	--	--	--	249.62	3172
--	--	--	--	--	--	--	--	0.03	--	--	--	222.79	
--	--	--	--	--	--	--	--	0.03	--	--	--	-26.83	
--	--	--	--	--	--	--	--	--	--	0.31	--	116.75	2367
--	--	--	--	--	--	--	--	--	--	0.31	--	108.34	
--	--	--	--	--	--	--	--	--	--	0.00	--	-8.41	
6.13	--	--	--	--	--	--	--	1.23	--	14.32	--	143.75	2494
6.13	--	--	--	--	--	--	--	1.23	--	14.32	--	140.61	
0.00	--	--	--	--	--	--	--	0.00	--	0.00	--	-3.14	
18.13	--	--	--	--	--	--	--	--	--	--	--	360.55	5228
18.09	--	--	0.06	--	--	--	--	--	--	--	--	283.72	
-0.04	--	--	0.06	--	--	--	--	--	--	--	--	-76.83	
--	--	--	--	--	--	--	--	--	--	--	--	436.02	3202
--	--	--	0.82	--	--	--	--	--	--	--	--	344.61	
--	--	--	0.82	--	--	--	--	--	--	--	--	-91.41	
--	--	--	0.54	--	--	--	--	0.18	--	--	--	233.35	3968
--	--	--	0.06	--	--	--	--	0.18	--	--	--	213.00	
--	--	--	-0.49	--	--	--	--	0.00	--	--	--	-20.35	
--	--	--	--	--	--	--	--	--	--	--	--	387.84	3200
--	--	--	--	--	--	--	--	--	--	--	--	275.65	
--	--	--	--	--	--	--	--	--	--	--	--	-112.19	
1.80	0.04	--	0.28	--	--	--	--	0.30	0.17	8.68	--	278.42	3844
1.83	0.00	--	0.52	--	--	--	--	0.54	0.17	8.68	--	276.60	
0.03	-0.04	--	0.24	--	--	--	--	0.24	0.00	0.00	--	-1.82	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Bihar Contd...

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Saharsa	2008-09	--	--	8.42	7.41	19.23	234.22	--	--	--	--	--
	2015-16	--	--	5.64	6.05	16.25	152.98	--	--	--	--	--
	Change	--	--	-2.78	-1.36	-2.98	-81.25	--	--	--	--	--
Samastipur	2008-09	--	--	0.86	5.38	15.29	285.25	--	--	--	--	--
	2015-16	--	--	1.22	3.77	11.94	257.03	--	--	--	--	--
	Change	--	--	0.36	-1.61	-3.35	-28.22	--	--	--	--	--
Saran	2008-09	--	--	34.04	29.24	32.39	165.53	--	--	--	--	--
	2015-16	--	--	28.13	27.27	23.18	170.11	--	--	--	--	--
	Change	--	--	-5.91	-1.97	-9.21	4.58	--	--	--	--	--
Sheikhpura	2008-09	--	--	--	0.24	--	23.61	--	--	--	--	--
	2015-16	--	--	--	0.24	--	7.36	--	--	--	--	--
	Change	--	--	--	0.00	0.00	-16.25	--	--	--	--	--
Sheohar	2008-09	--	--	--	1.82	1.97	11.11	--	--	--	--	--
	2015-16	--	--	--	1.52	1.97	9.34	--	--	--	--	--
	Change	--	--	--	-0.30	0.00	-1.77	--	--	--	--	--
Sitamarhi	2008-09	--	--	0.33	4.35	0.49	54.45	--	--	--	--	--
	2015-16	--	--	0.21	3.47	0.75	48.74	--	--	--	--	--
	Change	--	--	-0.12	-0.87	0.26	-5.71	--	--	--	--	--
Siwan	2008-09	--	--	6.34	15.54	85.11	102.85	--	0.03	--	--	--
	2015-16	--	--	4.13	11.29	76.62	104.19	--	--	--	--	--
	Change	--	--	-2.21	-4.25	-8.49	1.34	--	-0.03	--	--	--
Supaul	2008-09	--	--	15.81	44.59	4.87	103.50	--	--	--	--	--
	2015-16	--	--	12.74	31.70	5.27	96.94	--	--	--	--	--
	Change	--	--	-3.07	-12.90	0.39	-6.56	--	--	--	--	--
Vaishali	2008-09	--	--	1.17	14.78	34.27	200.71	--	--	--	--	--
	2015-16	--	--	0.98	9.99	18.32	193.10	--	--	--	--	--
	Change	--	--	-0.19	-4.79	-15.95	-7.61	--	--	--	--	--
Grand Total	2008-09	68.14	--	480.87	1792.02	444.11	4744.29	1.08	0.21	--	--	1099.94
	2015-16	66.99	--	420.68	1629.42	374.52	3903.92	1.33	--	--	--	1102.77
	Change	-1.16	--	-60.19	-162.60	-69.58	-840.37	0.25	-0.21	--	--	2.83

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

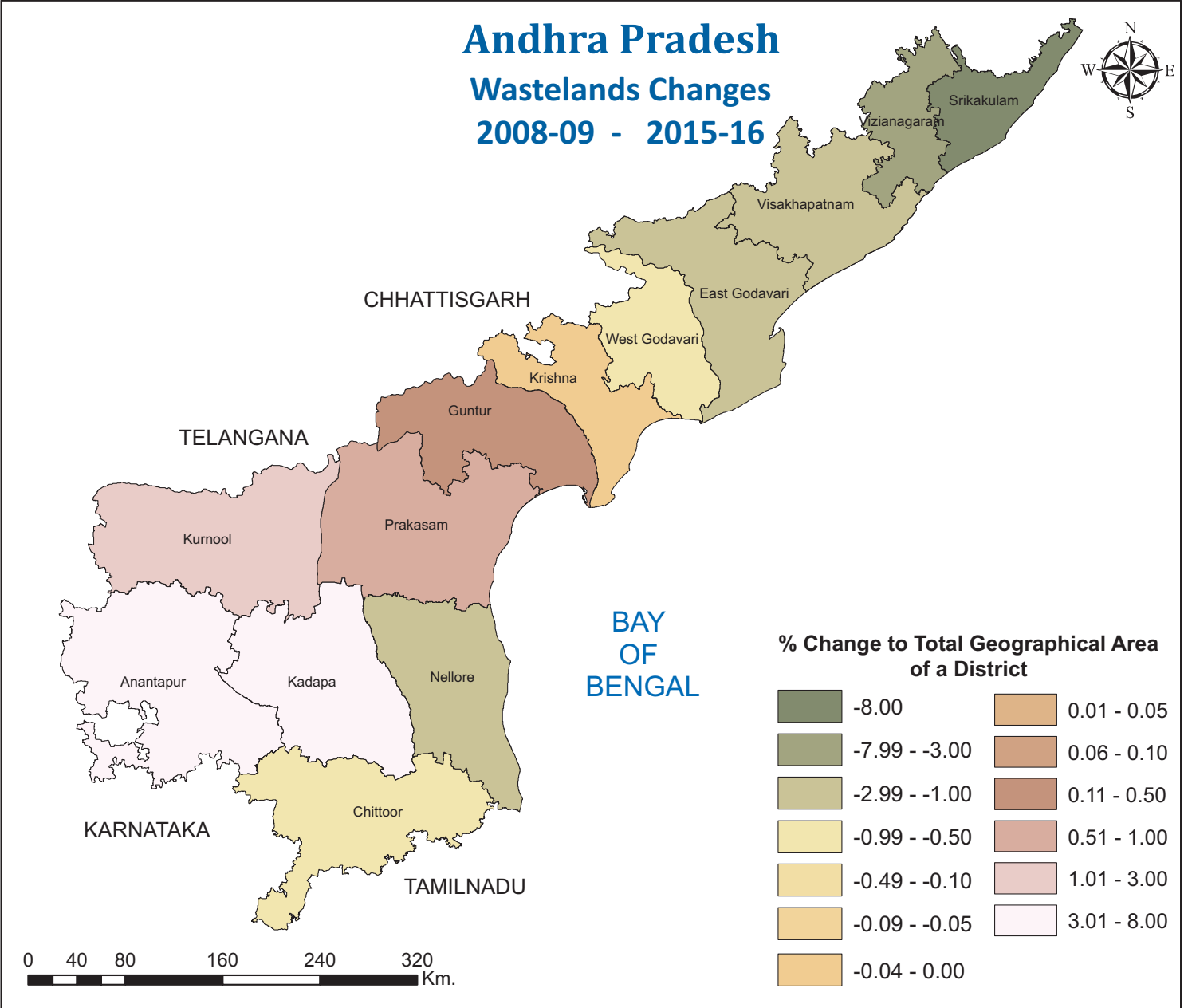
- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	0.47	--	--	--	--	--	--	--	--	269.75	1694
--	--	--	0.43	--	--	--	--	--	--	--	--	181.34	
--	--	--	-0.04	--	--	--	--	--	--	--	--	-88.41	
--	0.08	--	--	--	--	--	--	--	--	--	--	306.86	2904
--	0.08	--	--	--	--	--	--	--	--	--	--	274.04	
--	0.00	--	--	--	--	--	--	--	--	--	--	-32.82	
--	--	--	--	--	--	--	--	0.19	--	--	--	261.39	2641
--	--	--	0.39	--	--	--	--	0.19	--	--	--	249.27	
--	--	--	0.39	--	--	--	--	0.00	--	--	--	-12.13	
--	--	--	--	--	--	--	--	1.92	--	2.94	--	28.70	540
--	--	--	--	--	--	--	--	1.92	--	2.94	--	12.45	
--	--	--	--	--	--	--	--	0.00	--	0.00	--	-16.25	
--	--	--	0.50	--	--	--	--	--	--	--	--	15.41	583
--	--	--	--	--	--	--	--	--	--	--	--	12.83	
--	--	--	-0.50	--	--	--	--	--	--	--	--	-2.57	
--	--	--	--	--	--	--	--	--	--	--	--	59.61	2060
--	--	--	--	--	--	--	--	--	--	--	--	53.17	
--	--	--	--	--	--	--	--	--	--	--	--	-6.44	
--	--	--	--	--	--	--	--	1.18	0.03	--	--	211.08	2219
--	--	--	0.93	--	--	--	--	1.18	0.03	--	--	198.37	
--	--	--	0.93	--	--	--	--	0.00	0.00	--	--	-12.72	
--	0.08	--	16.88	--	--	--	--	--	--	--	--	185.74	2480
--	0.08	--	15.04	--	--	--	--	--	--	--	--	161.77	
--	0.00	--	-1.84	--	--	--	--	--	--	--	--	-23.97	
--	--	--	--	--	--	--	--	--	--	--	--	250.93	2036
--	--	--	--	--	--	--	--	--	--	--	--	222.40	
--	--	--	--	--	--	--	--	--	--	--	--	-28.54	
51.43	6.77	--	21.03	--	--	--	--	8.66	7.86	89.05	--	8815.45	94171
53.08	3.53	--	21.21	--	--	--	--	10.88	7.86	89.19	--	7685.39	
1.65	-3.24	--	0.19	--	--	--	--	2.22	0.00	0.14	--	-1130.07	

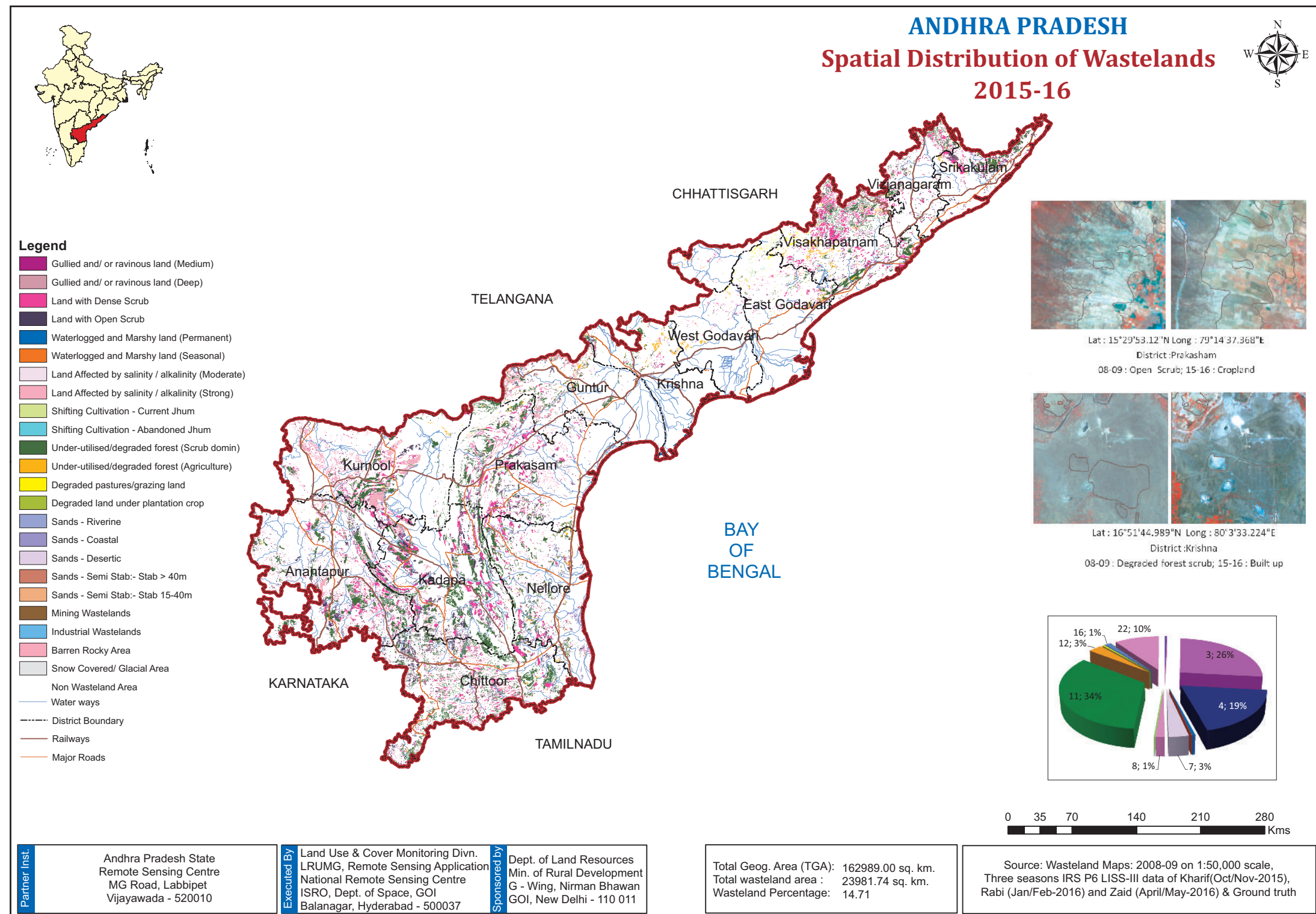
TGA - Total Geographical Area

13. Degraded pastures/ grazing land	19. Sands-Semi Stab.-Stab 15-40m
14. Degraded land under plantation crop	20. Mining Wastelands
15. Sands-Riverine	21. Industrial wastelands
16. Sands-Coastal	22. Barren Rocky/Stony waste
17. Sands-Desertic	23. Snow covered /Glacial area
18. Sands-Semi Stab.-Stab>40m	



Salient Features

- Decrease in wastelands area by 804.18 sq. km.
- Decrease in **land with dense scrub** (299.50 sq. km.), **land with open scrub** (243.98 sq. km.) and **degraded forest** (127.51 sq. km.)
- 484.56 sq. km. of wasteland area converted into cropland, predominantly from **land with dense scrub** (139.99 sq. km.) and **land with open scrub** (243.51 sq. km.)
- Nellore district witnessed decline in wastelands area by 282.86 sq. km. largely from **land with open & dense scrub** (196.71 sq. km.).
- Prakasam district witnessed decrease in wastelands area by 92.63 sq. km. primarily from **land with open & dense scrub**.



ANDHRA PRADESH

Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16																						WL 2008-09 becoming non-WL in 2015-16						2008-09	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	20	21	22	24	25	26	27	28	29	32	Category Total	Grand Total	
1	115.08			18.25																	3.68		18.19	3.07	9.99		0.79	169.03	24785.92	
2		1.83		0.77																			0.29					2.89		
3			6286.90	32.69																	21.79	1.28	139.99	66.17	37.00		4.70	6590.52		
4				4502.10																	29.41	1.65	243.51	41.14	23.30		3.05	4844.16		
5					118.92																	0.49	0.59	0.06		26.92		146.97		
6						16.91																						16.91		
7			3.41	28.93			794.61	0.14											0.15		0.93		47.24	7.55	1.40		0.62	884.99		
8			0.27	13.95			5.58	349.62													0.49		6.02	0.22	0.11		0.60	376.86		
9									14.18	1.03																		15.21		
10										1.26																		1.26		
11											8174.40	121.07										4.34					2.10	8301.92		
12												610.69										0.26						610.95		
13													96.74															96.74		
14				1.43										12.98								1.84		2.22	0.73	7.39		26.58		
15				0.93											15.65								6.19					22.77		
16			0.45	0.69	0.67											255.08					0.05	0.19	20.22		12.93	1.58	291.87			
17																	1.95						0.11	1.42	0.32		3.80			
20				0.33														1.62				0.18					2.13			
21																			3.05			0.22					3.27			
22																				2368.95	8.15						2377.10			
999	0.64			0.10			0.08								6.75		0.92													
Category Total (2015-16)	115.72	1.83	6291.02	4600.17	119.59	16.91	800.27	349.76	14.18	2.29	8174.40	731.76	96.74	12.98	15.65	261.83	1.95	2.54	3.20	2368.95	71.34	3.62	484.56	120.36	92.44	28.50	11.86			
Grand Total (2015-16)	23981.74																													

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
1	35.71	219	0.64	1
2	0.29	1		
3	270.93	1530		
4	342.05	1755	0.10	1
5	28.05	62		
6				
7	57.74	636	0.08	1
8	7.44	62		
9				
10				
11	6.44	32		
12	0.26	1		
13				
14	12.17	69		
15	6.19	62		
16	34.97	172	6.75	99
17	1.85	10		
20	0.18	6	0.92	9
21	0.22	2		
22	8.15	136		
Total	812.67	4755	8.49	111

Wastelands becoming Non-wastelands (-) 812.67
 Non-wastelands becoming Wastelands (+) 8.49
 NET Change (2015 - 16) - (2008 - 09) (-) 804.18

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Andhra Pradesh

Wastelands Area Changes – 2008-09 and 2015-16

District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Anantapur	2008-09	0.56	--	737.75	737.34	--	--	224.15	79.96	--	--	1228.08
	2015-16	0.56	--	727.50	723.63	--	--	217.99	78.92	--	--	1222.34
	Change	0.00	--	-10.25	-13.71	--	--	-6.16	-1.04	--	--	-5.74
Chittoor	2008-09	10.91	--	836.31	758.75	--	--	64.85	12.16	--	--	1346.62
	2015-16	5.09	--	798.60	733.99	--	--	48.08	9.60	--	--	1332.71
	Change	-5.82	--	-37.71	-24.76	--	--	-16.77	-2.56	--	--	-13.91
East Godavari	2008-09	13.11	--	136.39	29.41	30.36	--	--	--	14.94	1.12	155.98
	2015-16	0.72	--	110.58	21.88	12.96	--	--	--	13.91	2.15	144.20
	Change	-12.39	--	-25.82	-7.53	-17.39	--	--	--	-1.03	1.03	-11.78
Guntur	2008-09	--	--	102.71	195.37	9.10	--	4.88	18.03	--	--	337.24
	2015-16	--	--	92.53	184.78	9.10	--	7.44	15.09	--	--	334.84
	Change	--	--	-10.18	-10.59	0.00	--	2.55	-2.94	--	--	-2.39
Krishna	2008-09	--	--	77.39	41.39	94.62	5.57	0.95	--	--	--	146.81
	2015-16	--	--	60.45	45.00	85.29	5.57	0.95	--	--	--	136.17
	Change	--	--	-16.93	3.61	-9.33	0.00	0.00	--	--	--	-10.64
Kurnool	2008-09	11.15	--	525.33	287.94	--	--	211.80	93.53	--	--	669.68
	2015-16	11.17	--	505.57	279.01	--	--	198.70	92.02	--	--	667.86
	Change	0.02	--	-19.77	-8.93	--	--	-13.09	-1.51	--	--	-1.82
Nellore	2008-09	17.42	--	527.64	396.60	0.49	3.43	225.75	55.79	--	--	759.51
	2015-16	13.18	--	440.53	286.99	--	3.43	187.31	42.25	--	--	702.16
	Change	-4.24	--	-87.10	-109.61	-0.49	0.00	-38.45	-13.54	--	--	-57.35
Prakasam	2008-09	23.99	--	912.53	586.74	4.85	--	134.58	112.38	--	--	920.69
	2015-16	23.42	--	876.57	554.81	4.85	--	122.40	107.04	--	--	902.93
	Change	-0.57	--	-35.96	-31.93	0.00	--	-12.18	-5.34	--	--	-17.76
Srikakulam	2008-09	9.33	--	272.11	171.83	6.45	7.69	--	--	0.04	--	297.44
	2015-16	5.56	--	269.97	172.23	6.45	7.69	--	--	0.04	--	295.41
	Change	-3.77	--	-2.14	0.40	0.00	0.00	--	--	0.00	--	-2.03
Visakhapatnam	2008-09	54.54	2.89	1051.96	344.22	0.42	0.21	--	--	0.08	0.14	652.64
	2015-16	32.96	1.83	1034.54	358.14	0.42	0.21	--	--	0.08	0.14	652.64
	Change	-21.57	-1.06	-17.42	13.92	0.00	0.00	--	--	0.00	0.00	0.00
Vizianagaram	2008-09	21.64	--	299.14	81.58	--	--	--	--	0.02	--	303.99
	2015-16	18.83	--	295.55	79.38	--	--	--	--	0.02	--	302.00
	Change	-2.81	--	-3.59	-2.21	--	--	--	--	0.00	--	-2.00
West Godavari	2008-09	3.58	--	37.10	5.89	0.68	--	--	--	0.13	--	2.69
	2015-16	1.45	--	28.18	6.37	0.51	--	--	--	0.13	--	2.69
	Change	-2.13	--	-8.92	0.48	-0.17	--	--	--	0.00	--	0.00
Kadapa	2008-09	2.81	--	1074.16	1207.08	--	--	18.01	5.00	--	--	1480.55
	2015-16	2.79	--	1050.45	1153.96	--	--	17.40	4.84	--	--	1478.46
	Change	-0.02	--	-23.70	-53.12	--	--	-0.62	-0.16	--	--	-2.09
Grand Total	2008-09	169.03	2.89	6590.52	4844.16	146.97	16.91	884.99	376.86	15.21	1.26	8301.92
	2015-16	115.72	1.83	6291.02	4600.17	119.59	16.91	800.27	349.76	14.18	2.29	8174.40
	Change	-53.31	-1.06	-299.50	-243.98	-27.38	0.00	-84.72	-27.09	-1.03	1.03	-127.51

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

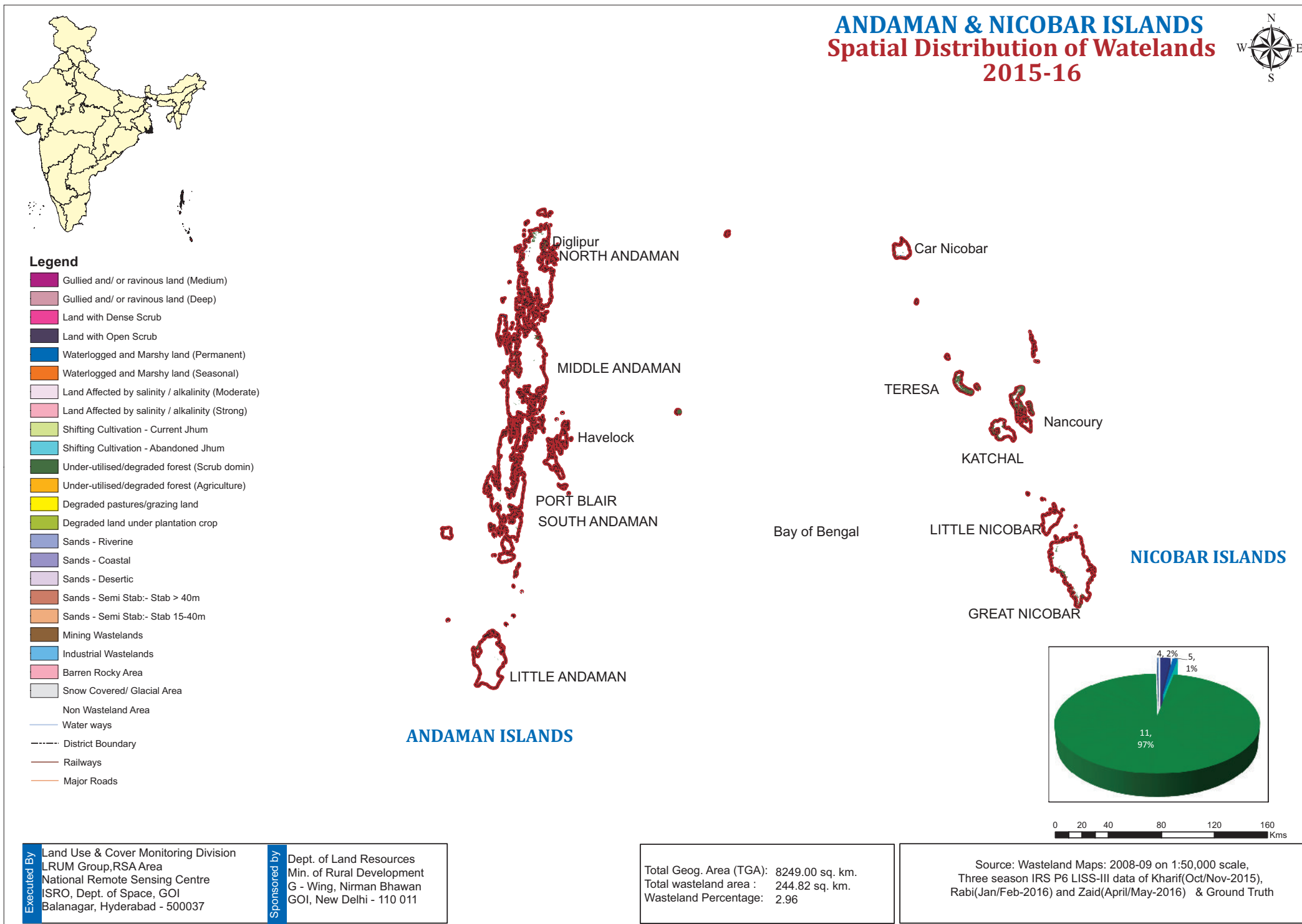
Area in sq.km

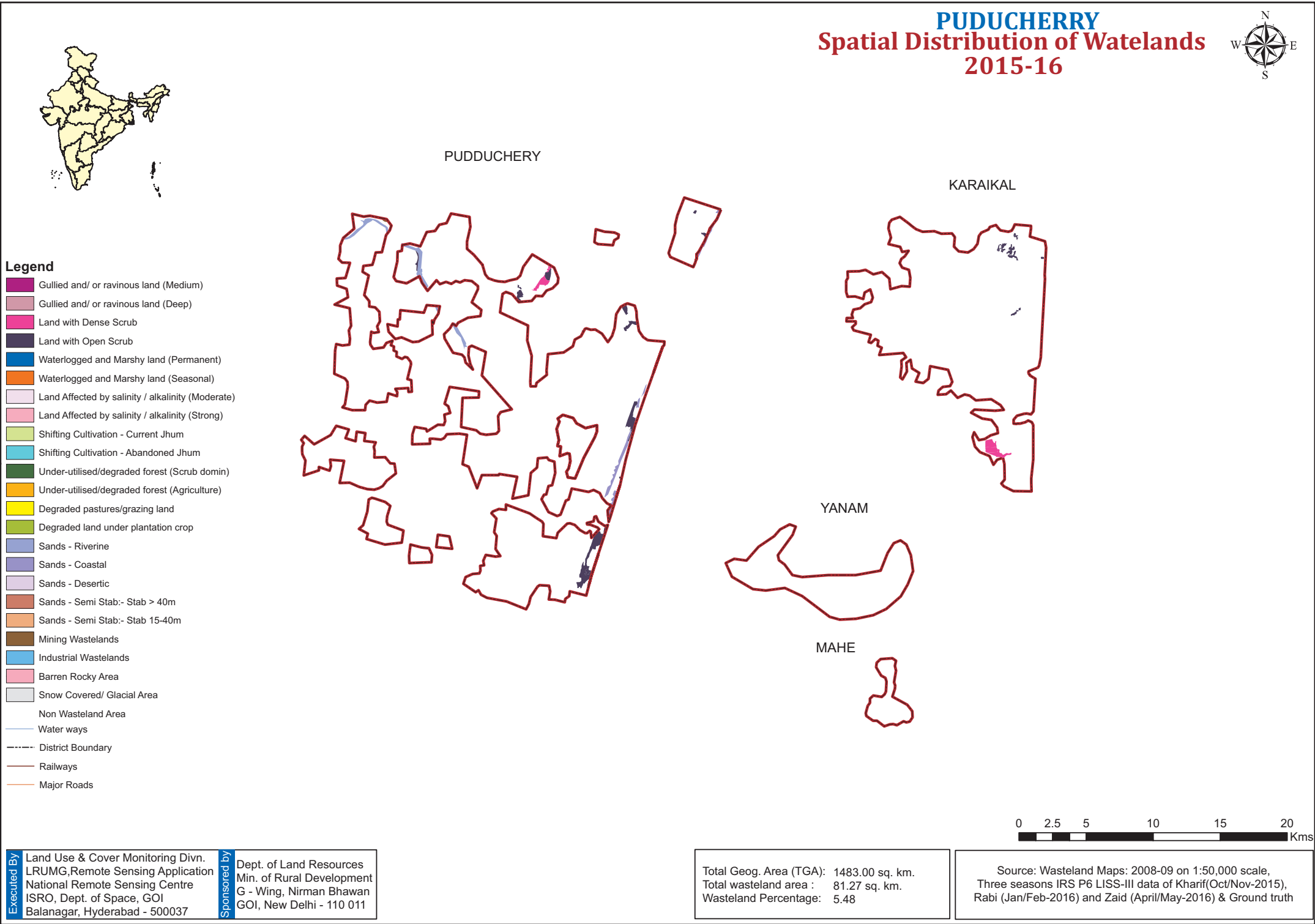
12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
6.43	--	--	5.34	--	--	0.27	--	464.84	--	3484.73	19130	3484.73	19130
11.99	--	--	4.76	--	--	0.27	0.15	460.34	--	3448.46		3448.46	
5.56	--	--	-0.58	--	--	0.00	0.15	-4.49	--	-36.27		-36.27	
22.18	--	--	--	--	--	0.91	--	255.93	--	3308.63	15152	3308.63	15151
36.05	--	--	--	--	--	1.82	--	254.84	--	3220.79		3220.79	
13.86	--	--	--	--	--	0.92	--	-1.09	--	-87.84		-87.84	
46.31	37.84	12.40	--	30.63	--	0.11	--	4.71	--	513.33	12826	513.33	12805
58.10	37.84	3.82	--	27.27	--	--	--	4.71	--	438.14	12805	438.14	
11.78	0.00	-8.58	--	-3.36	--	-0.11	--	0.00	--	-75.19	0	-75.19	
58.83	--	--	--	9.94	--	--	1.56	487.79	--	1225.46	11391	1225.46	11391
61.22	--	--	--	9.86	--	--	1.56	487.79	--	1204.22	11391	1204.22	
2.39	--	--	--	-0.08	--	--	0.00	0.00	--	-21.24	0	-21.24	
86.67	--	6.39	0.23	20.89	--	--	--	1.05	--	481.97	8727	481.97	8727
93.20	--	4.17	0.23	20.76	--	--	--	0.92	--	452.73	8727	452.73	
6.52	--	-2.22	0.00	-0.12	--	--	--	-0.12	--	-29.24	0	-29.24	
31.88	--	--	--	--	--	--	--	729.72	--	2561.03	17658	2561.03	17658
33.70	--	--	--	--	--	--	--	729.10	--	2517.13		2517.13	
1.82	--	--	--	--	--	--	--	-0.62	--	-43.90		-43.90	
22.41	--	--	15.85	151.48	0.11	0.13	--	7.60	--	2184.20	13076	2184.20	13076
79.77	--	--	9.30	128.95	--	--	--	7.47	--	1901.34	13076	1901.34	
57.35	--	--	-6.54	-22.53	-0.11	-0.13	--	-0.12	--	-282.86	0	-282.86	
37.82	--	1.55	0.06	32.15	3.69	--	--	117.56	--	2888.60	17626	2888.60	17626
53.48	--	0.42	0.06	30.48	1.95	--	--	117.56	--	2795.98	17626	2795.98	
15.66	--	-1.13	0.00	-1.67	-1.74	--	--	0.00	--	-92.63	0	-92.63	
30.46	--	5.82	--	22.98	--	--	--	6.32	--	830.47	5837	830.47	5837
32.50	--	4.15	--	20.72	--	--	--	6.13	--	820.84	5837	820.84	
2.03	--	-1.68	--	-2.25	--	--	--	-0.19	--	-9.63	0	-9.63	
195.19	52.54	0.42	--	18.48	--	--	1.15	9.34	--	2384.23	11161	2384.23	11161
195.19	52.54	0.42	--	18.48	--	--	1.15	9.07	--	2357.83	11161	2357.83	
0.00	0.00	0.00	--	0.00	--	--	0.00	-0.27	--	-26.40	0	-26.40	
20.08	--	--	--	2.21	--	--	0.55	17.80	--	747.02	6539	747.02	6539
22.07	--	--	--	2.21	--	--	0.34	16.85	--	737.25	6539	737.25	
2.00	--	--	--	0.00	--	--	-0.22	-0.95	--	-9.78	0	-9.78	
44.72	6.35	--	0.07	3.12	--	0.44	--	0.28	--	105.04	8507	105.04	8507
44.46	6.35	--	0.07	3.09	--	0.17	--	0.28	--	93.74	8507	93.74	
-0.26	0.00	--	0.00	-0.02	--	-0.27	--	0.00	--	-11.30	0	-11.30	
7.94	--	--	1.22	--	--	0.27	--	274.16	--	4071.22	15359	4071.22	15359
10.03	--	--	1.22	--	--	0.27	--	273.87	--	3993.30	15359	3993.30	
2.09	--	--	0.00	--	--	0.00	--	-0.29	--	-77.91	0	-77.91	
610.95	96.74	26.58	22.77	291.87	3.80	2.13	3.27	2377.10	--	24785.92	162989	24785.92	162989
731.76	96.74	12.98	15.65	261.83	1.95	2.54	3.20	2368.95	--	23981.74		23981.74	
120.81	0.00	-13.60	-7.12	-30.04	-1.85	0.41	-0.07	-8.15	--	-804.18		-804.18	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

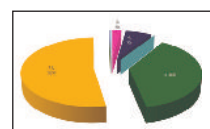
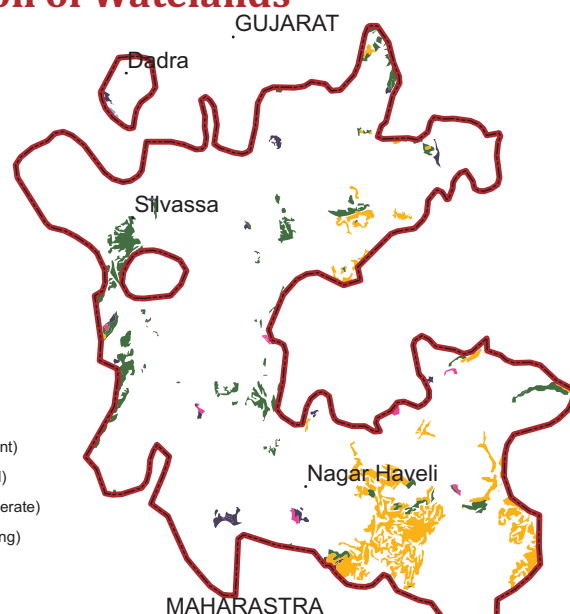




DADRA & NAGAR HAVELI Spatial Distribution of Watelands 2015-16

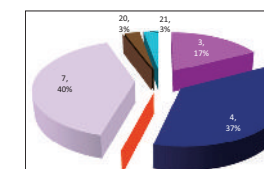
Legend

- Gullied and/ or ravinous land (Medium)
- Gullied and/ or ravinous land (Deep)
- Land with Dense Scrub
- Land with Open Scrub
- Waterlogged and Marshy land (Permanent)
- Waterlogged and Marshy land (Seasonal)
- Land Affected by salinity / alkalinity (Moderate)
- Land Affected by salinity / alkalinity (Strong)
- Shifting Cultivation - Current Jhum
- Shifting Cultivation - Abandoned Jhum
- Under-utilised/degraded forest (Scrub domin)
- Under-utilised/degraded forest (Agriculture)
- Degraded pastures/grazing land
- Degraded land under plantation crop
- Sands - Riverine
- Sands - Coastal
- Sands - Desertic
- Sands - Semi Stab:- Stab > 40m
- Sands - Semi Stab:- Stab 15-40m
- Mining Wastelands
- Industrial Wastelands
- Barren Rocky Area
- Snow Covered/ Glacial Area
- Non Wasteland Area
- Water ways
- International Boundary
- State Boundary
- District Boundary
- Railways
- Major Roads



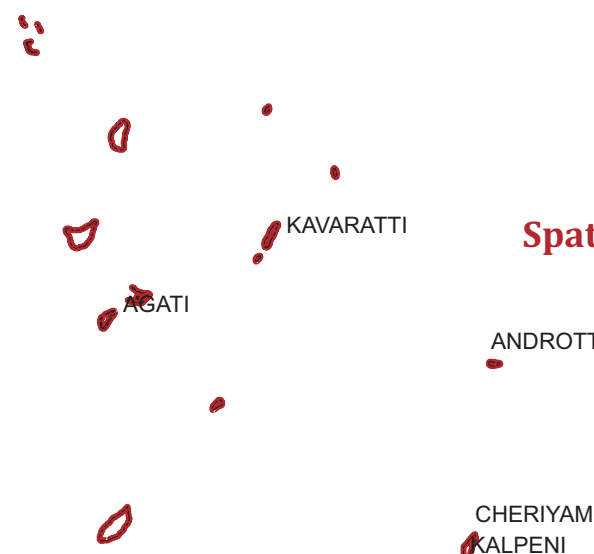
Total Geog. Area (TGA): 491 sq.km
Total wasteland area: 52.33 sq.km
Wasteland percentage: 10.65

DAMAN & DIU Spatial Distribution of Watelands 2015-16



Total Geog. Area (TGA): 112 sq.km
Total wasteland area: 7.785 sq.km
Wasteland percentage: 6.95

LAKSHADWEEP Spatial Distribution of Watelands 2015-16



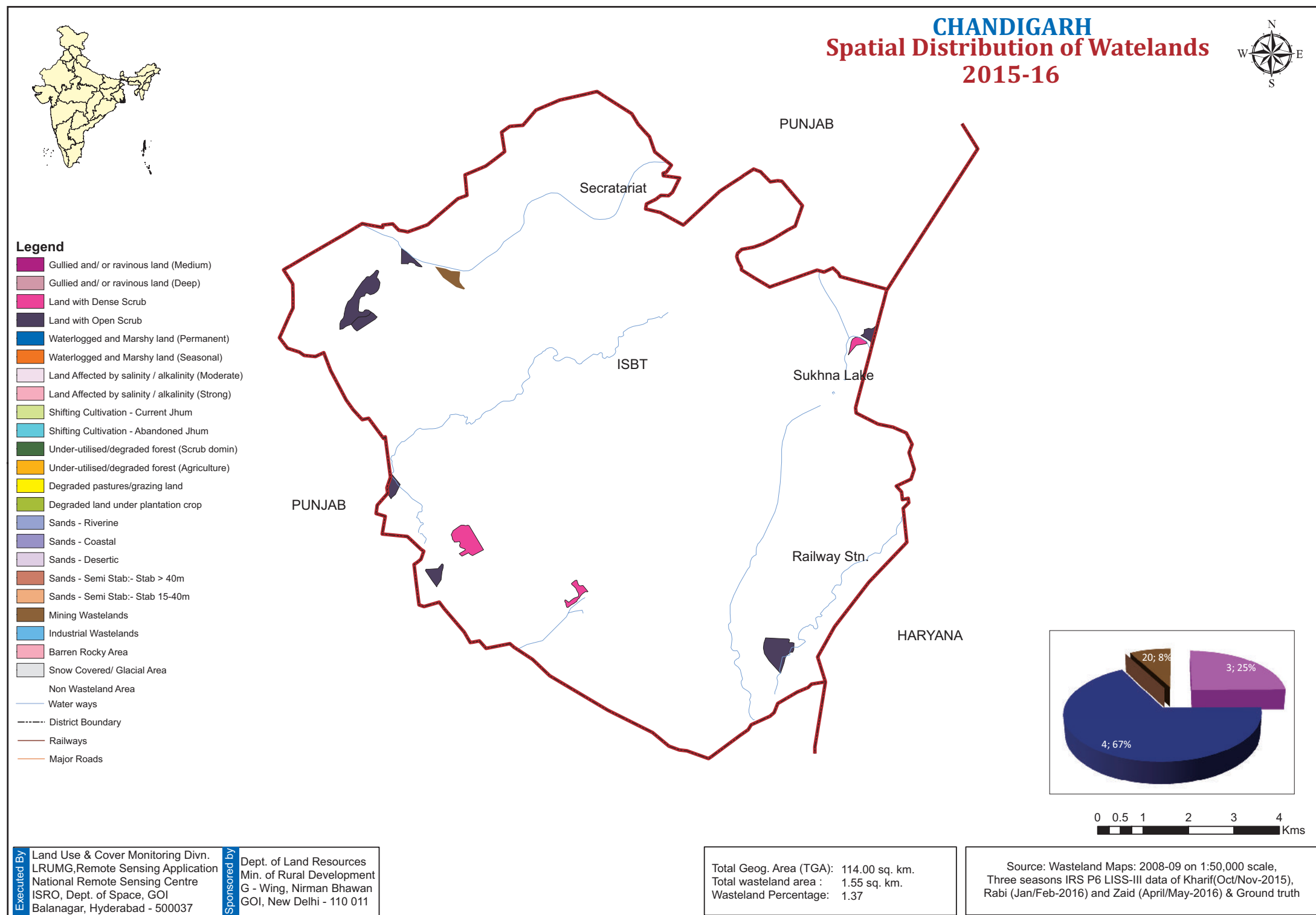
Total Geog. Area (TGA): 32 sq.km
Total wasteland area: 0.6 sq.km
Wasteland percentage: 1.87

Source: Wasteland Maps: 2008-09 on 1:50,000 scale,
Three seasons IRS P6 LISS-III data of Kharif (Oct/Nov-2015),
Rabi (Jan/Feb-2016) and Zaid (April/May-2016) & Ground truth

0 3 6 12 18 24
Kms

Executed By Land Use & Cover Monitoring Divn.
LRUMG, Remote Sensing Application
National Remote Sensing Centre
ISRO, Dept. of Space, GOI
Balanagar, Hyderabad - 500037

Sponsored by Dept. of Land Resources
Min. of Rural Development
G - Wing, Nirman Bhawan
GOI, New Delhi - 110 011



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Wastelands Area Change Matrix : 2008-09 and 2015-16

Area in sq.km

WL Categories	WL during 2008-09 remaining as WL in 2015-16										WL 2008-09 becoming non_WL in 2015-16						2008-09	
	3	4	5	7	11	12	15	16	20	21	24	25	26	28	29	30	Category Total	Grand Total
3	5.02	1.75									0.09						6.86	309.95
4		10.33							0.12		1.20	0.14					11.79	
5			2.31														2.31	
7				3.09							0.37						3.46	
11					246.97	0.07								2.16	9.49	0.03	258.72	
12						20.76											20.76	
15							2.49										2.49	
16		0.65						2.35									3.00	
20									0.30	0.06							0.36	
21										0.21							0.21	
999	0.27	3.78		0.04	5.01			0.65									12711.69	
Category Total (2015-16)	5.29	16.51	2.31	3.13	251.98	20.83	2.49	3.00	0.42	0.27	1.66	0.14		2.16	9.49	0.03		
Grand Total (2015-16)	306.23																	

WL Category	Reduction from 0809 to 1516		Increase from 0809 to 1516	
	Area	No of polygons	Area	No of polygons
3	0.09	2	0.27	2
4	1.34	10	3.78	13
5				
7	0.37	2	0.04	1
11	11.68	13	5.01	21
12				
15				
16			0.65	1
20				
21				
Total	13.49	27	9.76	38

Wastelands becoming Non-wastelands (-) 13.49
 Non-wastelands becoming Wastelands (+) 9.76
 NET Change (2015 - 16)- (2008 - 09) (-) 3.72

Green denotes Change from wasteland to non-wasteland
Red denotes change from non-wasteland to wastelands
Blue denotes no change in the wasteland category
 2008 - 09 Wastelands statistics are revised version.
 Area under category total is rounded to nearest decimal.

Wasteland Classes			Non-Wasteland Classes
1. Gullied and/ or ravinous land (Medium)	9. Shifting Cultivation - Current Jhum	17. Sands-Desertic	24. Built-up
2. Gullied and/ or ravinous land (Deep)	10. Shifting Cultivation - Abandoned Jhum	18. Sands-Semi Stab.-Stab>40m	25. Industrial Area
3. Land with Dense Scrub	11. Under-utilised/degraded forest (Scrub domin)	19. Sands-Semi Stab.-Stab 15-40m	26. Cropland
4. Land with Open Scrub	12. Under-utilised/degraded forest (Agriculture)	20. Mining Wastelands	27. Fallow Land
5. Waterlogged and Marshy land (Permanent)	13. Degraded pastures/ grazing land	21. Industrial wastelands	28. Plantation
6. Waterlogged and Marshy land (Seasonal)	14. Degraded land under plantation crop	22. Barren Rocky/Stony waste	29. Forest-Dense/Open
7. Land affected by salinity/alkalinity (Medium)	15. Sands-Riverine	23. Snow covered /Glacial area	30. Forest Plantation
8. Land affected by salinity/alkalinity (Strong)	16. Sands-Coastal	999. Non-Wasteland Area	31. Grasslands
			32. Waterbodies

Union Territories

Wastelands Area Changes – 2008-09 and 2015-16

	District	WL_Class	1	2	3	4	5	6	7	8	9	10	11
Andaman & Nicobar Islands		2008-09	--	--	--	0.99	2.31	--	--	--	--	--	243.54
		2015-16	--	--	--	4.93	2.31	--	--	--	--	--	236.88
		Change	--	--	--	3.94	0.00	--	--	--	--	--	-6.67
Chandigarh		2008-09	--	--	0.13	0.96	--	--	--	--	--	--	--
		2015-16	--	--	0.39	1.05	--	--	--	--	--	--	--
		Change	--	--	0.26	0.08	--	--	--	--	--	--	--
Dadra & Nagar Haveli		2008-09	--	--	1.44	2.47	--	--	--	--	--	--	15.17
		2015-16	--	--	0.93	2.67	--	--	--	--	--	--	15.10
		Change	--	--	-0.51	0.20	--	--	--	--	--	--	-0.07
Daman & Diu	Daman	2008-09	--	--	2.33	1.94	--	--	--	--	--	--	--
		2015-16	--	--	1.30	2.85	--	--	--	--	--	--	--
		Change	--	--	-1.03	0.91	--	--	--	--	--	--	--
	Diu	2008-09	--	--	0.05	--	--	--	3.46	--	--	--	--
		2015-16	--	--	0.05	--	--	--	3.13	--	--	--	--
		Change	--	--	0.00	0.00	--	--	-0.33	--	--	--	--
Lakshadweep		2008-09	--	--	--	--	--	--	--	--	--	--	--
		2015-16	--	--	--	--	--	--	--	--	--	--	--
		Change	--	--	--	--	--	--	--	--	--	--	--
Puduchery	Karaikal	2008-09	--	--	1.88	1.43	--	--	--	--	--	--	--
		2015-16	--	--	1.88	0.80	--	--	--	--	--	--	--
		Change	--	--	0.00	-0.63	--	--	--	--	--	--	--
	Mahe	2008-09	--	--	--	--	--	--	--	--	--	--	--
		2015-16	--	--	--	--	--	--	--	--	--	--	--
		Change	--	--	--	--	--	--	--	--	--	--	--
	Puduchery	2008-09	--	--	1.03	4.00	--	--	--	--	--	--	--
		2015-16	--	--	0.74	4.22	--	--	--	--	--	--	--
		Change	--	--	-0.29	0.21	--	--	--	--	--	--	--
	Yanam	2008-09	--	--	--	--	--	--	--	--	--	--	--
		2015-16	--	--	--	--	--	--	--	--	--	--	--
		Change	--	--	--	--	--	--	--	--	--	--	--
Grand Total		2008-09	--	--	6.86	11.79	2.31	--	3.46	--	--	--	258.72
		2015-16	--	--	5.29	16.51	2.31	--	3.13	--	--	--	251.98
		Change	--	--	-1.58	4.72	0.00	--	-0.33	--	--	--	-6.74

Note: "--" Denotes this Class is not existing in the District / State

2008-09 Wastelands statistics are revised version.

- | | |
|--|--|
| 1. Gullied and/ or ravinous land (Medium) | 7. Land affected by salinity/alkalinity (Medium) |
| 2. Gullied and/ or ravinous land (Deep) | 8. Land affected by salinity/alkalinity (Strong) |
| 3. Land with Dense Scrub | 9. Shifting Cultivation - Current Jhum |
| 4. Land with Open Scrub | 10. Shifting Cultivation - Abandoned Jhum |
| 5. Waterlogged and Marshy land (Permanent) | 11. Under-utilised/degraded forest (Scrub domin) |
| 6. Waterlogged and Marshy land (Seasonal) | 12. Under-utilised/degraded forest (Agriculture) |

Area in sq.km

12	13	14	15	16	17	18	19	20	21	22	23	Total	TGA
--	--	--	--	0.71	--	--	--	--	--	--	--	247.55	8249
--	--	--	--	0.71	--	--	--	--	--	--	--	244.83	
--	--	--	--	0.01	--	--	--	--	--	--	--	-2.72	
--	--	--	--	--	--	--	--	--	--	--	--	1.09	114
--	--	--	--	--	--	--	--	0.12	--	--	--	1.56	
--	--	--	--	--	--	--	--	0.12	--	--	--	0.46	
20.76	--	--	0.11	--	--	--	--	0.02	0.05	--	--	40.03	491
20.83	--	--	0.11	--	--	--	--	0.02	0.05	--	--	39.71	
0.07	--	--	0.00	--	--	--	--	0.00	0.00	--	--	-0.32	
--	--	--	--	--	--	--	--	0.28	0.16	--	--	4.71	72
--	--	--	--	--	--	--	--	0.22	0.22	--	--	4.60	
--	--	--	--	--	--	--	--	-0.06	0.06	--	--	-0.11	
--	--	--	--	--	--	--	--	--	--	--	--	3.51	40
--	--	--	--	--	--	--	--	--	--	--	--	3.18	
--	--	--	--	--	--	--	--	--	--	--	--	-0.33	
--	--	--	--	0.05	--	--	--	--	--	--	--	0.05	32
--	--	--	--	0.05	--	--	--	--	--	--	--	0.05	
--	--	--	--	0.00	--	--	--	--	--	--	--	0.00	
--	--	--	--	--	--	--	--	--	--	--	--	3.30	160
--	--	--	--	--	--	--	--	--	--	--	--	2.68	
--	--	--	--	--	--	--	--	--	--	--	--	-0.63	
--	--	--	--	--	--	--	--	--	--	--	--	--	9
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	2.38	2.24	--	--	--	0.05	--	--	--	9.69	293
--	--	--	2.38	2.24	--	--	--	0.05	--	--	--	9.62	
--	--	--	0.00	0.00	--	--	--	0.00	--	--	--	-0.08	
--	--	--	--	--	--	--	--	--	--	--	--	--	30
--	--	--	--	--	--	--	--	--	--	--	--	--	
--	--	--	--	--	--	--	--	--	--	--	--	--	
20.76	--	--	2.49	3.00	--	--	--	0.36	0.21	--	--	309.95	9490
20.83	--	--	2.49	3.00	--	--	--	0.42	0.27	--	--	306.23	
0.07	--	--	0.00	0.01	--	--	--	0.06	0.06	--	--	-3.72	

TGA - Total Geographical Area

13. Degraded pastures/ grazing land
 14. Degraded land under plantation crop
 15. Sands-Riverine
 16. Sands-Coastal
 17. Sands-Desertic
 18. Sands-Semi Stab.-Stab>40m

19. Sands-Semi Stab.-Stab 15-40m
 20. Mining Wastelands
 21. Industrial wastelands
 22. Barren Rocky/Stony waste
 23. Snow covered /Glacial area

Definitions of wastelands classes adopted in the Project

1) Gullied and/or Ravinous Land

Gully is a narrow channel when surface water flow increases in response to clearing and excessive use of land. Other factors that play a role in gully initiation are the type of landscape, geology, rainfall, soil texture, hill-slope length and seasonal climatic extremes. The intricate network of gullies is referred to as ravines. Two categories of ravines viz., medium ravines and deep ravines could be delineated based on their depth.

Medium Ravines: These are the ravines with a depth of gullies ranging between 2.5 and 5 meters. Generally, these are seen confined to the head region of the stream close to agricultural land.

Deep Ravines: The depth of ravines is more than 5 meters. Deep ravines, generally, occur along the higher order stream areas that are close to the main river.

2) Scrubland

This is the land, which is generally prone to deterioration due to erosion. Such lands generally occupy topographically high locations, excluding hilly/mountainous terrain. Based on the presence of vegetation cover, two sub-classes could be delineated i.e., land with dense scrub and land with open scrub.

Land with dense scrub

These areas have shallow and skeletal soils, at times chemically degraded, extremes of slopes, severely eroded and are subjected to excessive aridity with scrubs dominating the landscape. They have a tendency for intermixing with croplands.

Land with open scrub

This category is same as mentioned in the earlier category except that it has sparse vegetative cover or is devoid of scrub and has a thin soil covers.

3) Waterlogged / Marshy Land

Waterlogged land is that low lying land where the water is at/or near the surface and the water stands for most part of the year. Depending on duration of waterlogging, two sub-classes viz., permanently waterlogged and seasonally waterlogged areas could be delineated.

Permanent: Permanently waterlogged areas are those where the waterlogging conditions prevail during most part of the year. These areas are mostly located in low-lying areas, with impervious substratum along the canals/ river banks, coastal inlands, etc.

Seasonal: Seasonally waterlogged areas are those where the waterlogging condition prevails usually during the monsoon period. These lands are mostly located in plain areas associated with the drainage congestion. Use of multi-season satellite data enables delineation of this category.

4) Land affected by salinity/alkalinity

Land affected by salinity/alkalinity have excess soluble salts (saline) or high exchangeable sodium. Salinity is caused due to capillary movement of water, during extreme weather conditions leaving salt encrustation on the surface. Alkali soils have exchangeable sodium percentage (ESP) values of 15 or more, which is generally considered as the limit between normal and alkali soils. The predominant salts in alkali soils are carbonates and bicarbonates of sodium.



Considering the degree of salinity and or alkalinity, the following two sub- classes viz., moderately saline / alkali and strongly saline / alkali areas could be delineated.

Moderately Saline/Alkali land: These are the areas located in the fluvial plains with the degree of salinity (ECe) ranging from 8 to 30 (dS/m), pH between 9.0 – 9.8 and the Exchangeable Sodium Percentage (ESP) values ranging between 15 – 40.

Strongly Saline/Alkali land: These are the salt-affected lands with ECe values greater than 30 dS/m, pH values more than 9.8 and ESP values of >40.

5) Shifting Cultivation Areas

Shifting cultivation is a traditional practice of growing crops on forested/ vegetated hill-slope by the slash and burn method.

Current: The areas that are used for cultivation by the slash and burn practices and are clearly perceptible on the satellite image in pre-burnt /post-burnt conditions.

Abandoned: Are those areas that were earlier under shifting cultivation but subsequently left idle for more than one year but less than 5 years, thereby giving a scope for the regeneration of secondary vegetation such as bamboo or grasses. This category has a tendency to get mixed with forests.

6) Scrub Forest

Two sub-classes viz., scrub dominated degraded forest land and agriculture land inside notified forest area have been delineated

Scrub dominated: Land, as notified under the Forest Act and those lands with various types of forest cover with less than 20 % of vegetative cover, are classified as degraded forest. These lands are generally confined to the fringe areas of notified forest.

Agricultural land inside notified forest land: This category refers to land that have been notified under the Forest Act, in which agriculture is being practiced, (except for the de-notified forest areas)

7) Degraded pastures/grazing land

These are the lands in non-forest areas that are either under permanent pastures or meadows, which have degraded due to lack of proper soil and water conservation and drainage development measures.

8) Degraded land under plantation crop

These are the degraded lands that have been brought under plantation crops after reclamation, and are located outside the notified forest areas.

9) Sand (coastal / desert / riverine)

This category refers to land with accumulation of sand, in coastal, riverine or inland areas. Generally, these lands vary in size, occur in various shapes with contiguous to linear pattern. These lands are mostly found in deserts, riverbeds and along the shores.

10) Coastal sand

Coastal sands are the sands that are accumulated as a strip along the seacoast due to action of seawater. These are not being used for any purpose like recreation.



11) Desertic sand

Desertic sands are those confined to arid environment where the rainfall is scanty. These lands are characterized by accumulation of sand in the form of varying size of sand dunes and height that have developed as a result of transportation of soil through aeolian processes. The following two categories of desert sands could be mapped based on their vertical approximate heights.

Semi-stabilized to stabilized dunes with >40 m height Semi-stabilized to stabilized moderately high dunes with heights ranging between 15 and 40 m

12) Riverine sand

Riverine sands are those that are accumulated in the flood plain of the river as sheets, or sand bars. It also includes inland sand which was accumulated along the abandoned river courses or by reworking of sand deposits by wind action leading to long stretches of sand dunes or sand cover areas noticed in Indo-Gangetic alluvial plains

13) Mining /Industrial wastelands

Mine dumps: are those lands where waste debris is accumulated after extraction of minerals. Included in this category is the mine / quarry areas subject to removal of

different earth material (both surface and sub-surface) by manual and mechanized operations. Large scale quarrying and mechanical operations result in creation of mine dumps. It includes surface rocks and stone quarries, sand and gravel pits, soil excavation for brick kilns, etc

Industrial: These are areas of stockpile of storage dump of industrial raw material or slag/effluents or waste material or quarried/mixed debris from earth's surface.

14) Barren Rocky Area

These are rock exposures of varying lithology often barren and devoid of soil and vegetative cover. They occur amidst hill-forests as openings or as isolated exposures on plateau and plains. Barren rocky areas occur on steep isolated hillocks/hill slopes, crests, plateau and eroded plains associated with barren and exposed rocky/stony wastes, lateritic out-crops, mining and quarrying sites. The category also includes steep sloping areas devoid of vegetation cover that were classified separately in the earlier exercise.

15) Snow Covered and / or Glacial Area

These lands are under perpetual snow cover and are confined to the Himalayan region. The mountain peaks and slopes and high relief areas are the places where snow/glacial areas occurs



NNRMS Standards – Parameter and Values for Thematic / GIS Database and Output for 1:50,000 Scale

A]	Thematic / Cartographic Mapping Standards	
	Image Registration accuracy (RMS) in meter	12
	Map Projection	LCC/TM
	Datum	WGS84
	Position (Planimetric) Accuracy in meter	50
	Minimum Mappable Unit (MMU) in sq. mts.	22500
	Thematic Accuracy of Classification / Mapping	90/90
B]	GIS Database Standards	
	Spatial Framework	Seamless
	Coordinate units for precision	meters
	Projection	LCC / TM
	Datum	WGS 84
	Coordinate Precision	Single
	Minimum frame size for NRR	15` x 15`
	GIS DB Tic Registration Accuracy (RMS) in meter	12.5
	Position (Planimetric) Accuracy in meter	50
	Sliver Polygon Tolerance (SPT) (LESS-THAN MMU) in m	<22500

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